CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Introduction

Simulated Meter LCD Direct View | Source | Direct Display Control

Welcome to the HT Enthusiast Extended Workflow v12.0.0

Featuring ...

- Home layout outlines the workflow structure with full access
- Comprehensive notes management
- 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

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!

Navigation Bar
INT
Intro
Home
Session Setup
Intro
Prepare
Setup
PreCal Read
DyRng
Calibrate
Gray
Satur
Lumi
C Chk
3d Cb
PostCal Read
Analyze
Gray
Satur
Lumi
C Chk
3d Cb
Final Check
Intro

Notes Mgmt | Home
PreCal Read | Session Setup

CalMAN 5

Workflow Description

Simulated Meter LCD Direct View | Source | Direct Display Control

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 setup information and plan the session calibration strategy, 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 (Full-feature and Simple lower-impact)
- Saturation Sweeps, also used for basic CMS calibration
- Gamut Luminance
- Color Checker
- 3D Color Cube LUT for supported hardware

All active calibration layouts except 2-Point & Simple Grayscale have corresponding detail datagrid layouts. You can acces them with the ↑Data buttons . Use the High-Content Color Checker data 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 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 control.

Except for the 2-Point Grayscale there are Analysis datagrid layouts with both pre- and post-calibration data for each active calibration view. You can acces 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 acces to all layouts.

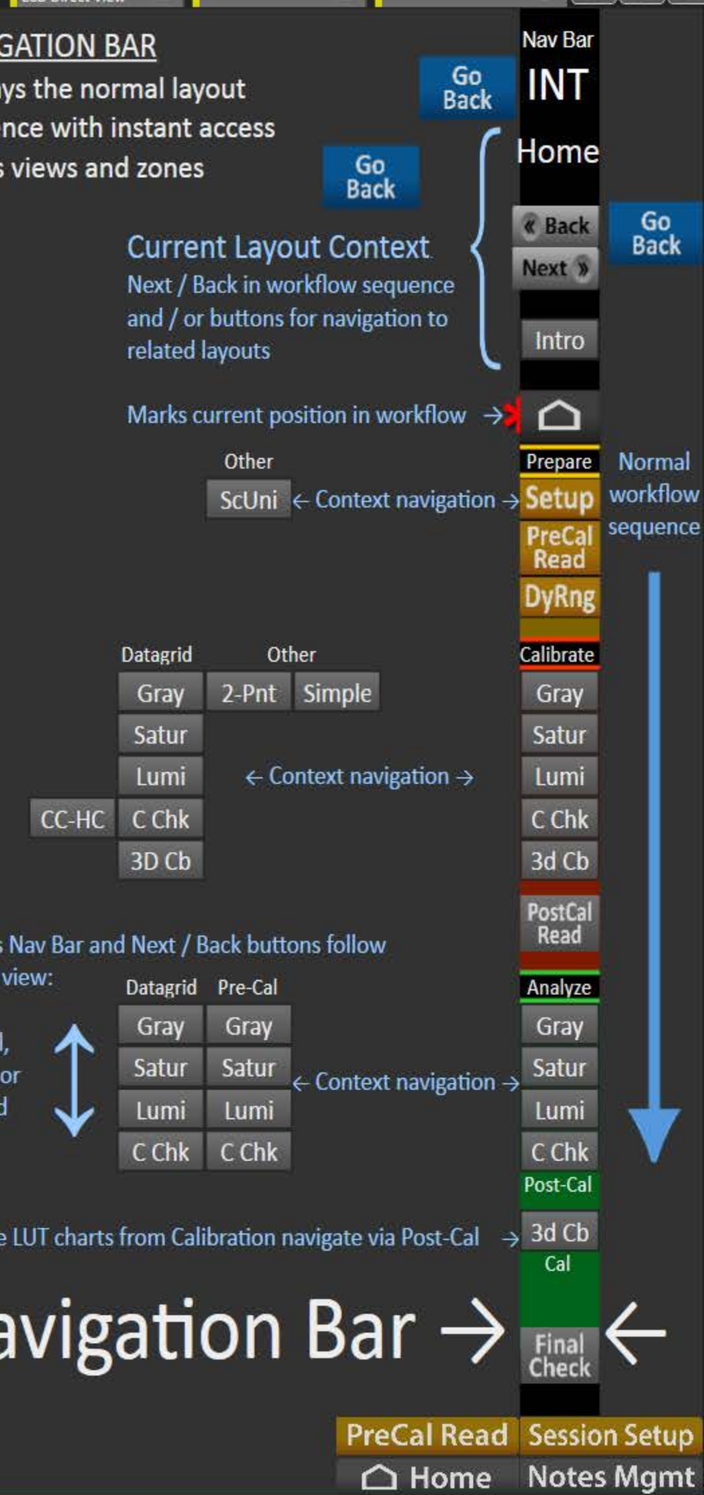
Session Setup - Integrates calibration options, initial settings & notes, and hardware/device configuration.

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



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Introduction: Home

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HOME

Workflow Layout Structure

– Introduction –

→ Prepare ←

↓ Calibrate ↑

← Analyze →

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Preparation (PRP)

1 ▶ Session Setup → Screen Uniformity

2 ▶ Pre-Calibration Readings
feeds Pre-Cal charts #11-14

3 ▶ Dynamic Range Analysis

Calibration (CAL)

4 ▶ 2-Point Grayscale Calibration

5 ▶ Multi-Pt Grayscale Calibration → Datagrid
Only with Full Multi-Point

6 ▶ Saturation Sweeps Calibration → Datagrid
For basic CMS Gamut calibration use Saturation Sweeps set to 75% or 100% Only

7 ▶ Gamut Luminance Calibration → Datagrid

8 ▶ Color Checker Calibration → Datagrid, HC Datagrid (2 tabs)
Use HC Datagrid with high # of colors

9 ▶ 3D Color Cube LUT Calibration → Datagrid
feeds Detail Charts #15

10 ▶ Post-Calibration Readings
feeds Post-Cal charts #11-14

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)

16 ▶ Final Check – Fine Tune the Dynamic Range

Nav Bar
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Intro
Prepare
Setup
PreCal Read
DyRng
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M-Pnt
Satur
Lumi
C Chk
3d Cb
PostCal Read
Analyze
Gray
Satur
Lumi
C Chk
Post-Cal
3d Cb
Cal
Final Check
Home

ScUni

Datagrid: M-Pnt, Satur, Lumi, CC-HC, C Chk, 3D Cb
Other: 2-Pnt, Simple, Detail

Datagrid: Gray, Satur, Lumi, C Chk
Pre-Cal: Gray, Satur, Lumi, C Chk

PreCal Read | Session Setup
Back | Notes Mgmt

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Session Setup | Help

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Session Setup

(A) Session Options

Setup Notes

Calibration Description / Goals

Big

Session Info

More Options

Luminance Unit: fL

Input Level: Video (16-235)

Stimulus Unit: percent

DeltaE Formula: d E2000_JNDab

Gamut Coordinates: D65, HD Rec.709

Gamma Formula: ITU BT.1886

Display → PRO-70X5FD

Target cd/m2 Black	White	Target Gamma
0	100	1

(B) Display Settings

AV Mode: ISF Day

				Cut	Gain
Color Temp		Contrast			
Sharpness		Brightness		Red	
Color		Backlight		Green	
Tint		TV Gamma		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 Size: Full 100%

Triplet Support: FullTriplets

③ Display or Processor — Find → Configure

None

Display Slot

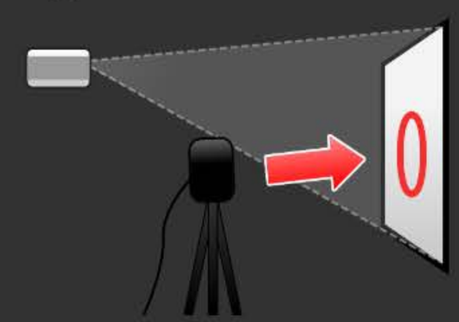
Data Points

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

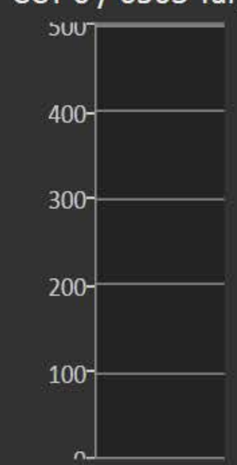


② Flat Panel

③ Readings

Y Max / Min fL
29.19 / 0

CCT 0 / 6503 Target



Screen Uniformity

Nav Bar: PRP Setup | Back | Next | ScUni | Prepare | ScUni | PreCal Read | DyRng | Calibrate | Gray | Satur | Lumi | C Chk | 3d Cb | PostCal Read | Analyze | Final Check | Setup

0 | 100

Notes | Home | Next

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Session Setup | Help

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Session Setup

(A) Session Options

Setup Notes

Calibration Description / Goals

Big

Session Info

More Options

Luminance Unit: fL

Input Level: Video (16-235)

Stimulus Unit: percent

DeltaE Formula: d E2000_JNDab

Gamut Coordinates: D65, HD Rec.709

Gamma Formula: ITU BT.1886

Display → PRO-70X5FD

Target cd/m2 Black	White	Target Gamma
0	100	1

(B) Display Settings

AV Mode: ISF Day

Color Temp		Contrast			Cut / Gain
Sharpness		Brightness		Red	
Color		Backlight		Green	
Tint		TV Gamma		Blue	

(C) Hardware Configuration

① Meter — Find → Configure

② Source — Find → Configure

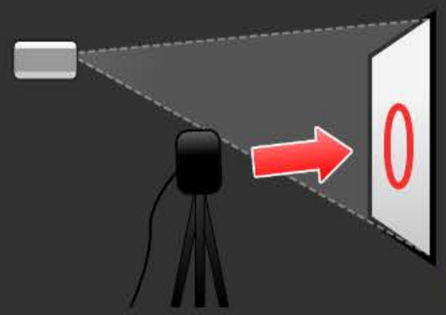
③ Display or Processor — Find → Configure

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



Display Controls

Brightness	5
Contrast	78
Color	0
Tint	0
Sharpness	2
Color Temperature	Low
Gamma	0
Backlight	17
Gamut Range	Standard
Motion ENhancement	120Hz Low
Precision Color Plus	
Active Contrast	
Film Mode	Off
Digital Noise Reduction	Off

Nav Bar: PRP Setup | Back | Next | ScUni | Prepare | ScUni | PreCal Read | DyRng | Calibrate | Gray | Satur | Lumi | C Chk | 3d Cb | PostCal Read | Analyze | Final Check | Setup

0 | 100

Home | Next | Notes

Go Back

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) If convenient define a calibration - the planned layouts will be indicated and followed by the Next / Back buttons of the Navigation Bar

(D) Find and configure the appropriate (1) meter, (2) source and (3) display devices - more info at right →

(E) 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 at right →

(D) 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.

Go Back

(E) 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.

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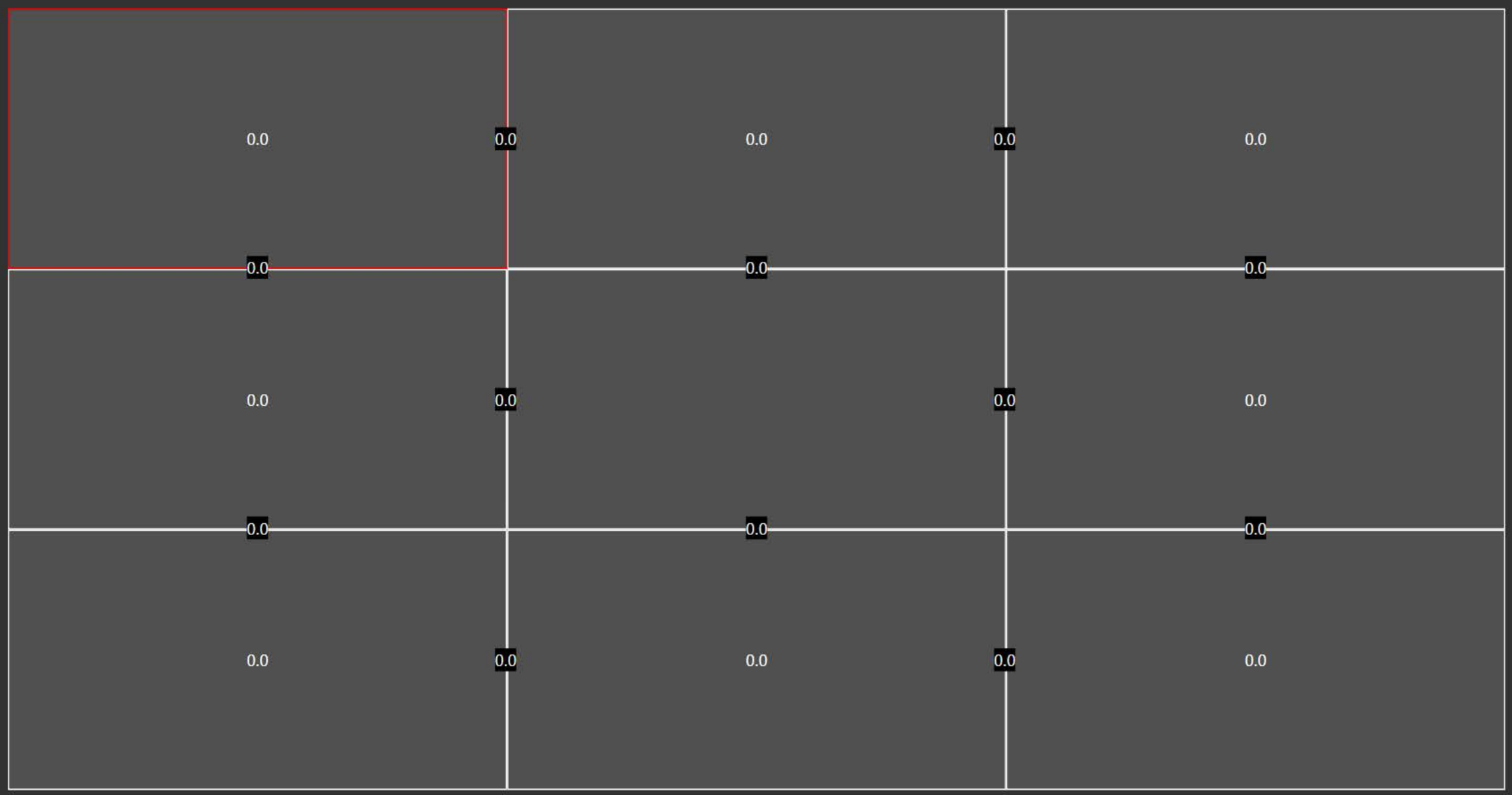
Screen Uniformity

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Screen Uniformity



Nav Bar

PRP

ScrUn

SetUp

Prepare

SetUp

Calibrate

Analyze

Session SetUp

PRP

30

100

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Pre-Cal Readings

Simulated Meter LCD Direct View | Source | Direct Display Control

Pre-Calibration Readings

Gamma Breakout Tot 2.2 Y Min 0 Y Max 23.8

1 Grayscale | Detail Charts | DeltaE 0.01 Avg 2.17 Max 3.94 | 100

4 Color Checker | Detail Charts

White

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

DeltaE 1.59 Avg 2.01 Max 3.16

2 Saturation Sweeps | Detail Charts | DeltaE 0.03 Max 1.95 Avg 1.12

3 Gamut Luminance | Detail Charts | DeltaE 3.24 Max 3.83 Avg 1.5

Populate Gamut for HT report

1 Grayscale: 20 Point 5% step 5-100%

2 Saturation: 25% Sweeps

3 Luminance: 4 Point 25% step 25-100%

4 Color Checker

Display Slot

Mode • ISF Day

Pre-Cal Readings

Contrast, Brightness, Backlight, TV Gamma, Color, Tint, Gain, Cut, Red, Green, Blue

Pre-Cal Notes, Big

Use [···] below to read ALL series or select a series above

Nav Bar: PRP, PreCal, Read, Back, Next, ↑PstRead, Prepare, Setup, ↑PstRead, DyRng, Calibrate, Gray, Satur, Lumi, C Chk, 3d Cb, ↑PstRead, Analyze, Gray, Satur, Lumi, C Chk, 3d Cb, Final Check, PreCal

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Dynamic Range

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≡ 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.

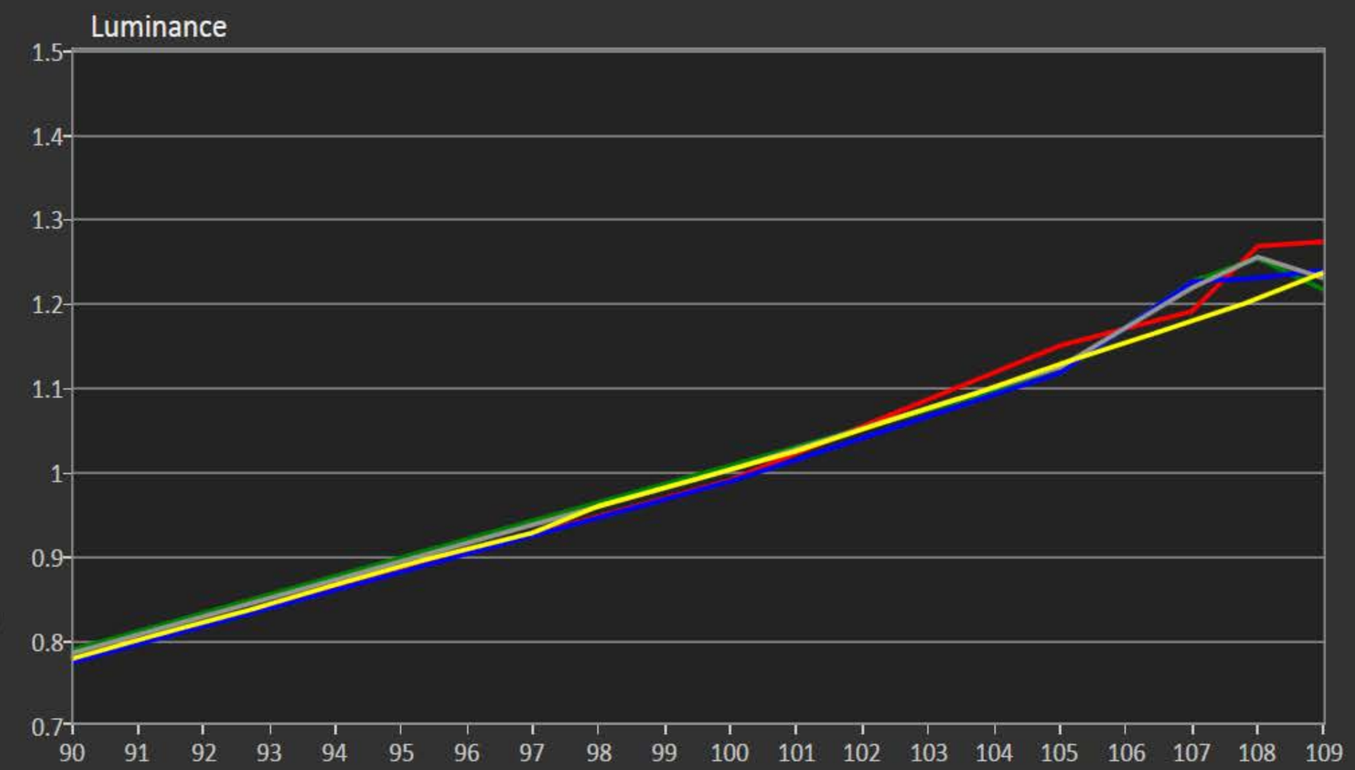
Clipping with Peak White ①

Gamma Level

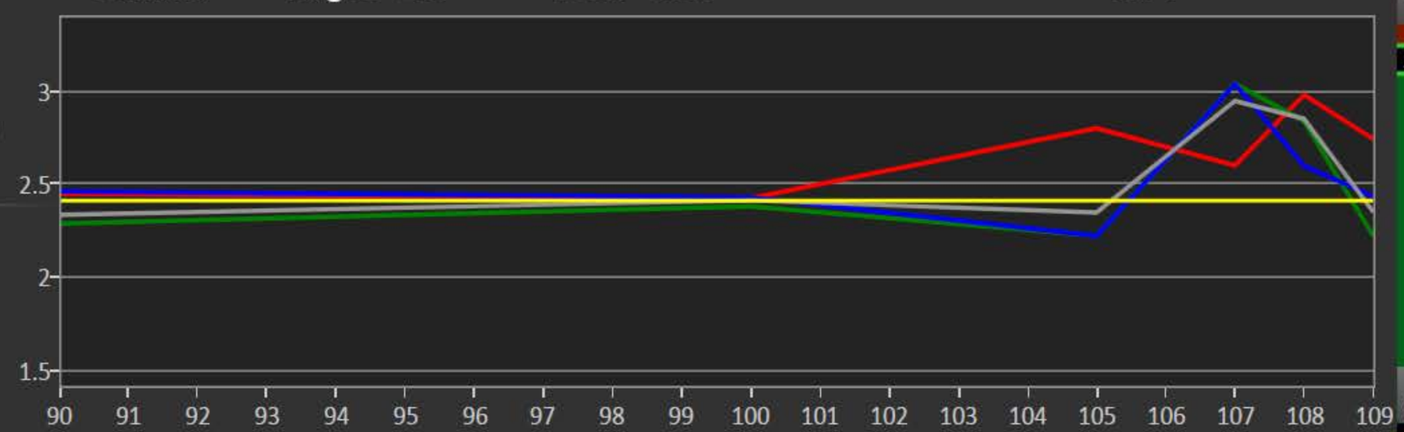
Data Points: select a full set of grayscale points for this.

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



Luminance in fL		White	23.32	109	28.6
Gamma	Target 2.4	Total	2.55		2.34



Calibration Notes

Big

Contrast	80
Brightness	1
Backlight	17
TV Gamma	-8

Display Slot ISF Day

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

Nav Bar PRP DyRng

Back Next

Prepare Setup PreCal Read DyRng Calibrate Gray Satur Lumi C Chk 3d Cb PostCal Read Analyze Final Check DyRng Notes

90 100 105 107 108 109

Back Next

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2 Pt Grayscale

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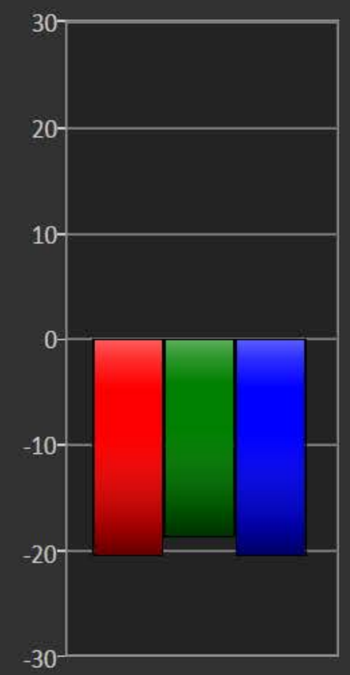
2-Point Grayscale Calibration

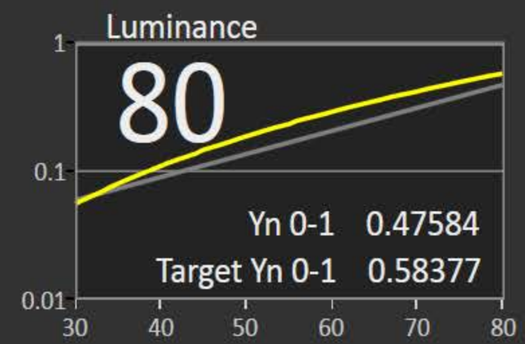
Grayscale 2-Point Adjust

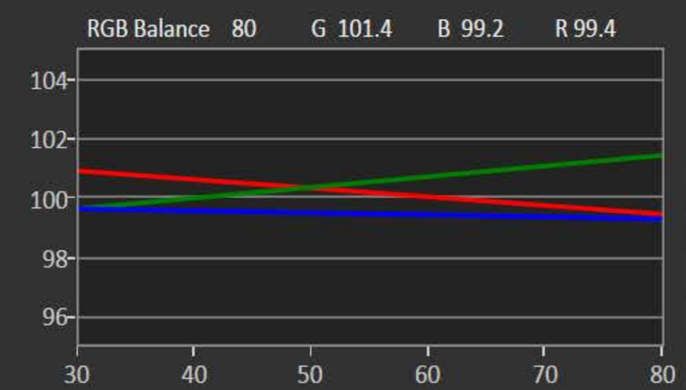
1. Reduce the Red, Green, and/or Blue (RGB) High controls to the lowest measured R, G, or B after the initial measurement of bright grayscale pattern. Continue doing this until you balance RGB to a deltaE of 3 or below (chart below).
2. Balance the RGB Low controls (if provided), while measuring a dark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

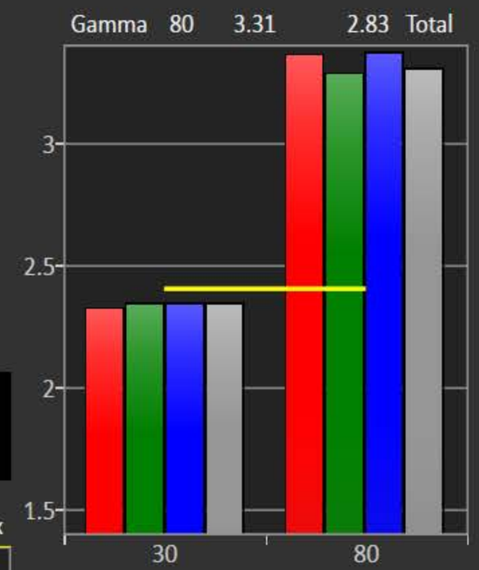
Selecting Points:

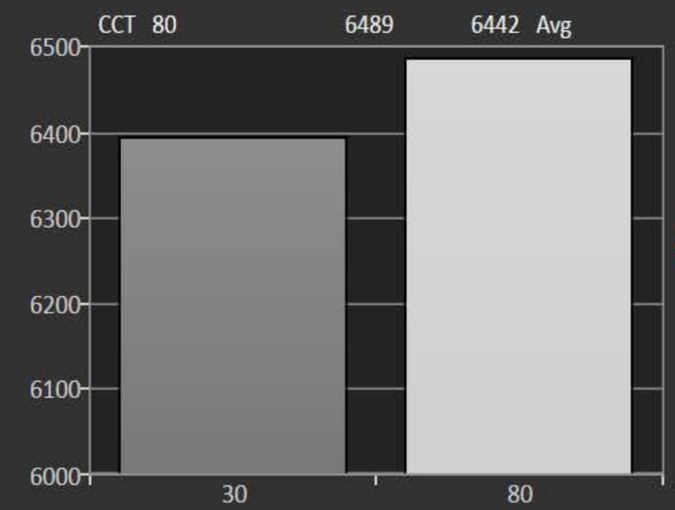
- ***30% and 80%:*** *Use these levels if you only have access to a two point grayscale adjustment*
- ***30% and 100%:*** *Use these levels if you will be completing a multipoint adjustment afterwards and do not have access to a Peak White pattern.*
- ***30% and Peak White:*** *Use these levels if your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

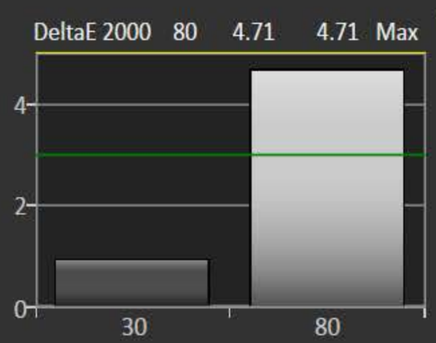










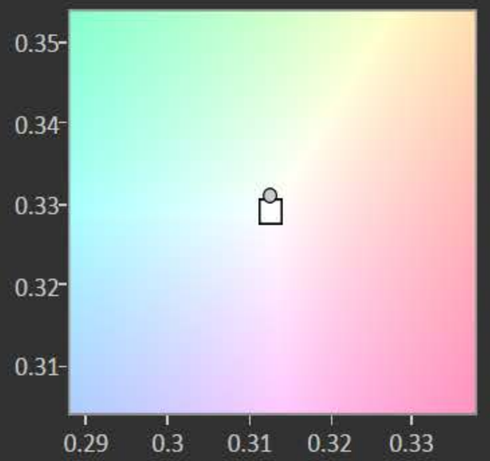


80			
	CC Temp	6489	6442 Avg
	Gamma	3.31	2.83 Tot
	dE 2000	4.71	2.83 Avg
			4.71 Max
White	29.19		

	Y / Luminance fL	x	y
Target →	17.03818	0.3127	0.329
Read →	13.88797	0.3127	0.331

2 Point 30,80%

Triplet 191, 191, 191



Calibration Notes

Nav Bar: CAL Gray 2-Pnt | Back | Next | M↑Full | M↑Sim | Prepare | Setup | PreRead | DyRng | Calibrate | M↑Full | M↑Sim | Satur | Lumi | C Chk | 3d Cb | PostCal Read | Analyze | Gray | Final Check | 2-Pnt | M↑Full | M↑Sim

30 | 80

Notes | Back | Next

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Simple Multi-Point

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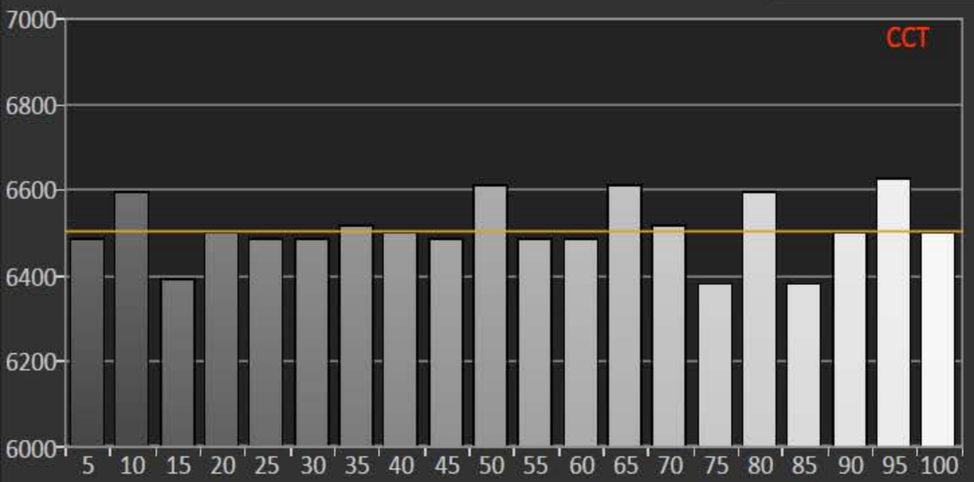
Multi-Point Grayscale Calibration - SImple

Full Layout



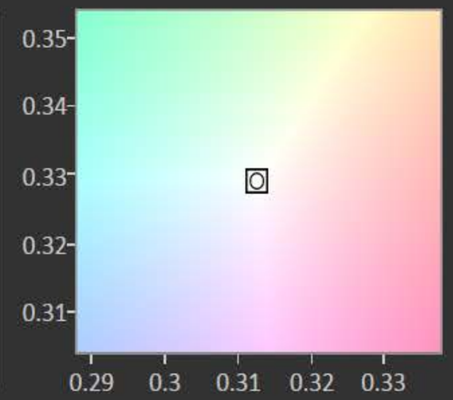
Y in fL **100** Target = tgt

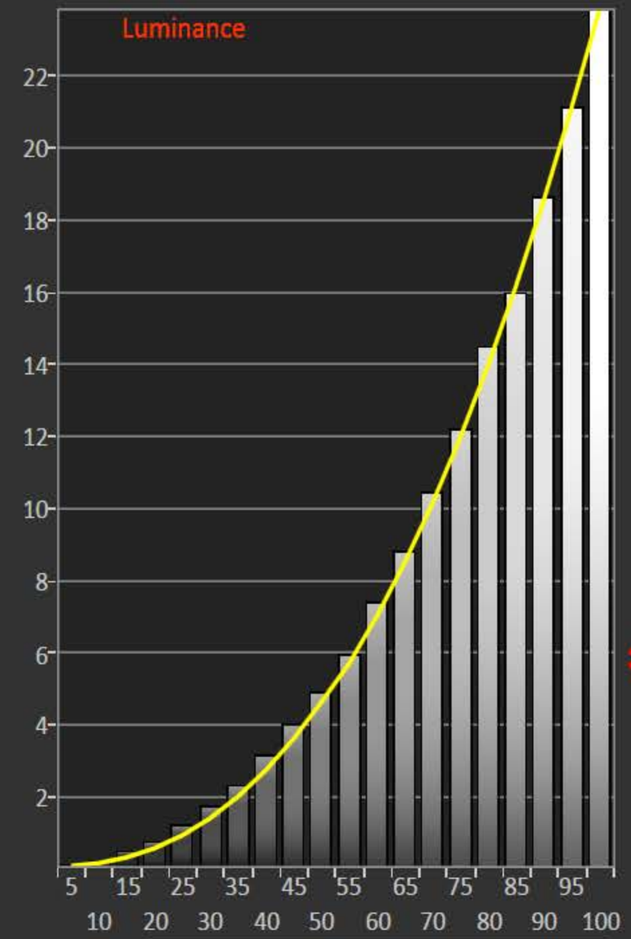
Triplet 235, 235, 235

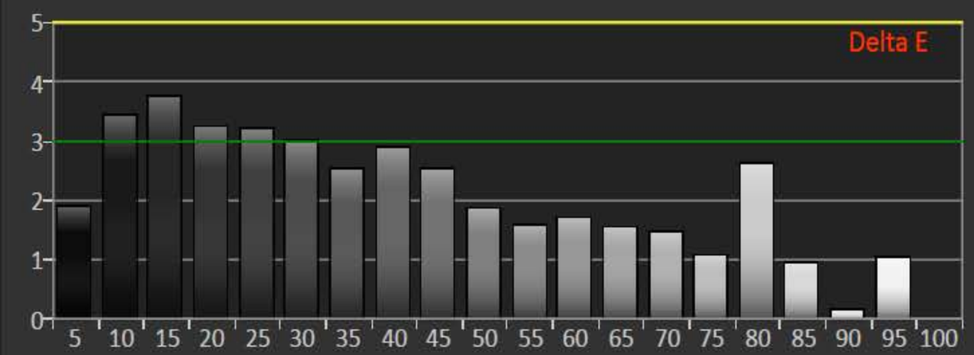
Y tgt 23.79573
23.79573

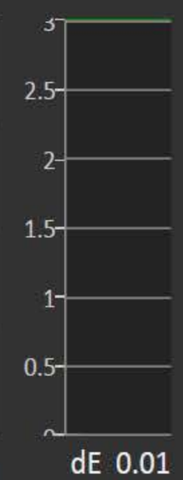
x tgt 0.31271
0.31271

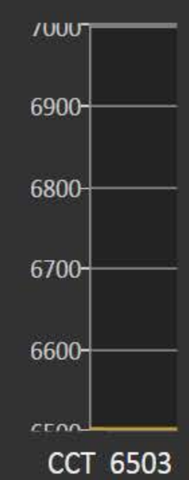
y tgt 0.32901
0.32902

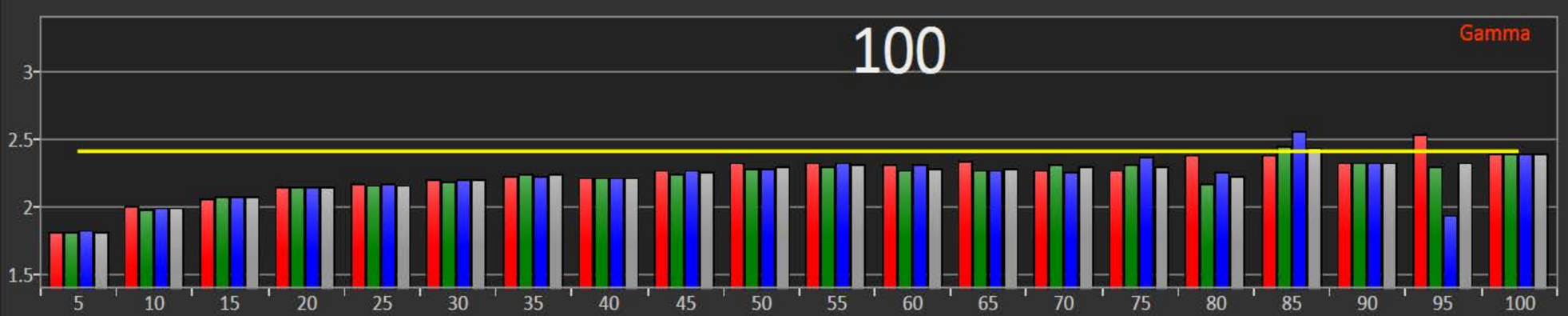












Summary

Delta E	Avg	2.06	
	Max	3.8	@ 15
Gamma	Tot	2.22	
	Tgt	2.4	
CCT	Avg	6510	
	Tgt	6503	
White		23.8	

Contrast Ratio : needs level 0 and 100 readings

Full Layout

Grayscale Points 20 Point 5% step 5-100%

Nav Bar
CAL
Gray
M-pnt
Back
Next
2 Point
M Full
Prepare
Setup
PreRead
DyRng
Calibrate
2 Point
M Full
Satur
Lumi
C Chk
3d Cb
PostCal Read
Analyze
Gray
Final Check
M-Pnt
2 Point
M Full

5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Notes

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Multi-Point Grayscale

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Multi-Point Grayscale Calibration - Full

Simple Layout | Comparator | Notes | DDC | Logarithmic Y Axis→

CCT 6518 6495 Avg

Y in fL 90 Target = tgt

Triplet 213, 213, 213

Y tgt 18.45698 18.61137

x tgt 0.31271 0.31271

y tgt 0.32901 0.32702

Luminance Target Y 18.45698 18.61137 90

RGB Balance R 2.2 G 0.3 B 2.4

Delta E 1.53 2.08 Avg 3.73 Max

RGB Balance | dE 1.53 | Gamma 2.32 | CCT 6518

Gamma 2.32 2.22 Total 90

Summary

Delta E	Avg	2.08	
	Max	3.73	@ 15
Gamma	Tot	2.22	
	Tgt	2.4	
CCT	Avg	6495	
	Tgt	6503	
White		23.8	

Contrast Ratio : needs level 0 and 100 readings

Simple Layout | Comparator | Notes | DDC

Display Slot ISF Day

Grayscale Points 20 Point 5% step 5-100%

Nav Bar: CAL Gray M-pnt Back Next 2 Point Gy Dta Prepare Setup PreRead DyRng Calibrate 2 Point Gy Dta Satur Lumi C Chk 3d Cb PostCal Read Analyze Gray Final Check M-Pnt 2 Point Gy Dta Notes Back Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Multi-Point Grayscale

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Multi-Point Grayscale Calibration - Full

Simple Layout | Comparator | Notes | DDC | Logarithmic Y Axis

Calibration Notes

Post-Calibration Notes

Calibration Description / Goals

Big

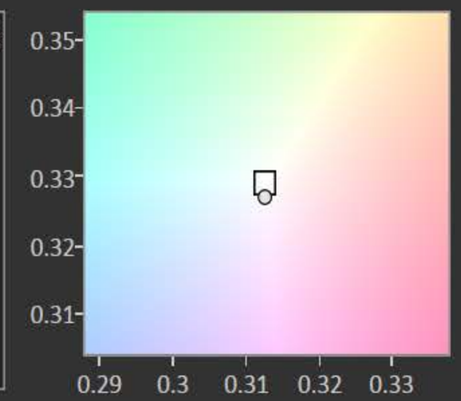
Y in fL 90 Target = tgt

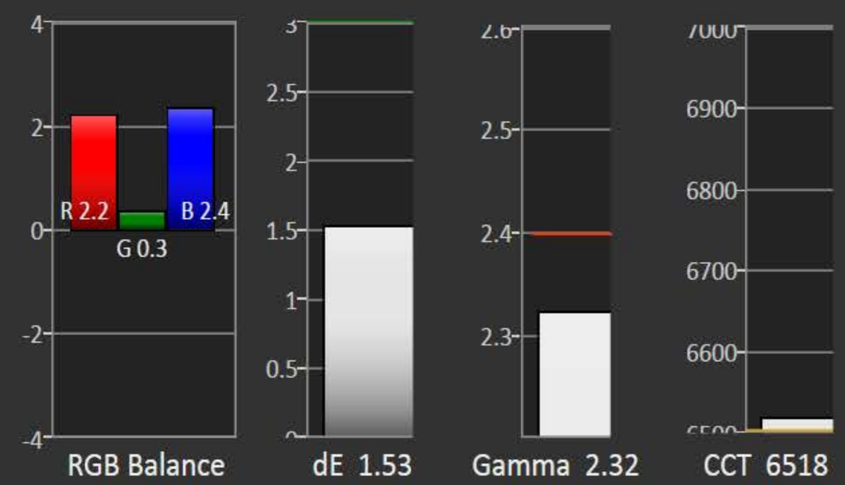
Triplet 213, 213, 213

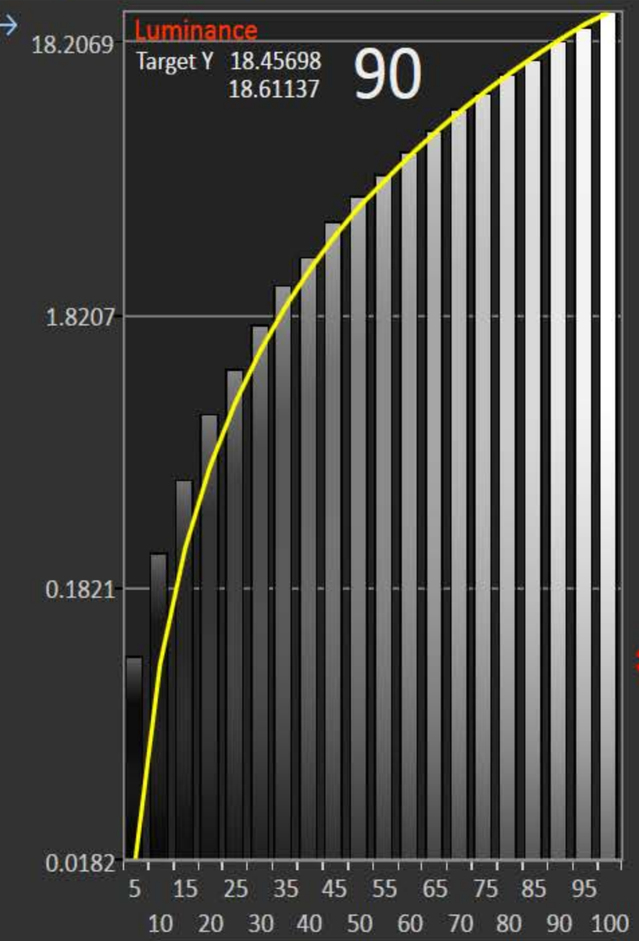
Y tgt 18.45698 18.61137

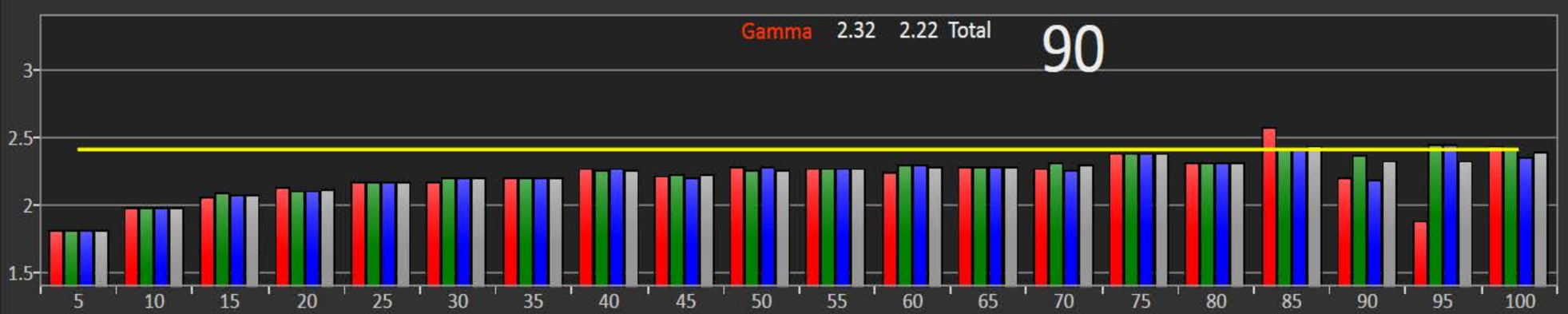
x tgt 0.31271 0.31271

y tgt 0.32901 0.32702









Contrast Ratio : needs level 0 and 100 readings

Summary

Delta E	Avg	2.08	
	Max	3.73	@ 15
Gamma	Tot	2.22	
	Tgt	2.4	
CCT	Avg	6495	
	Tgt	6503	
White		23.8	

Display Slot ISF Day

Grayscale Points 20 Point 5% step 5-100%

Nav Bar: CAL Gray M-pnt Back Next 2 Point Gy Dta Prepare Setup PreRead DyRng Calibrate 2 Point Gy Dta Satur Lumi C Chk 3d Cb PostCal Read Analyze Gray Final Check M-Pnt 2 Point Gy Dta

Notes Back Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Multi-Point Grayscale

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Multi-Point Grayscale Calibration - Full

Simple Layout | Comparator | Notes | DDC | Logarithmic Y Axis

CCT 6518 6495 Avg

Y in fL 90 Target = tgt

Triplet 213, 213, 213

Y tgt 18.45698 18.61137

x tgt 0.31271 0.31271

y tgt 0.32901 0.32702

	Red	Green	Blue
0	50	26	22
10	50	26	22
20	44	30	14
30	36	29	14
40	36	29	15
50	43	36	20
60	43	36	18
70	45	35	18
80	46	38	20
90	47	38	19
100	49	40	22

R 2.2 G 0.3 B 2.4

Delta E 1.53 2.08 Avg 3.73 Max

RGB Balance

dE 1.53

Gamma 2.32

CCT 6518

Gamma 2.32 2.22 Total 90

Contrast Ratio : needs level 0 and 100 readings

Simple Layout | Comparator | Notes | DDC

Display Slot ISF Day

Grayscale Points 20 Point 5% step 5-100%

Reset Grayscale

Nav Bar: CAL Gray M-pnt Back Next 2 Point Gy Dta Prepare Calibrate Satur Lumi C Chk 3d Cb PostCal Read Analyze Gray Final Check M-Pnt

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CalMAN 5 CalMAN Enthusiast for Home Video

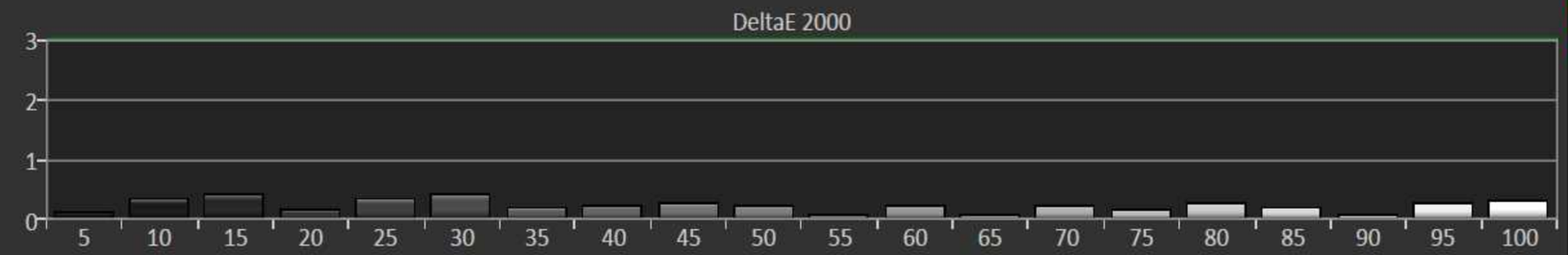
CalMAN 5

Datagrid

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Multi-Point Grayscale Calibration Data

Calibration Notes



	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
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
RedIndex	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
GreenIndex	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
BlueIndex	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
X	0.0495	0.2510	0.6353	1.1650	2.0094	3.0285	4.4361	6.1948	8.3099	10.5596	13.0544	16.0372	19.5133	23.2385	27.5783
Y cd/m²	0.0516	0.2625	0.6686	1.2260	2.1108	3.1949	4.6676	6.5157	8.7497	11.1137	13.7377	16.8832	20.5283	24.4279	29.0371
Z	0.0593	0.2905	0.7307	1.3240	2.2668	3.4526	5.0947	7.1459	9.4990	12.0359	14.9305	18.4646	22.3859	26.5923	31.5723
Xn 0-1	0.0009	0.0043	0.0109	0.0200	0.0345	0.0521	0.0762	0.1065	0.1428	0.1815	0.2244	0.2757	0.3354	0.3994	0.4740
Yn 0-1	0.0009	0.0045	0.0115	0.0211	0.0363	0.0549	0.0802	0.1120	0.1504	0.1910	0.2361	0.2902	0.3529	0.4199	0.4991
Zn 0-1	0.0010	0.0050	0.0126	0.0228	0.0390	0.0593	0.0876	0.1228	0.1633	0.2069	0.2566	0.3174	0.3848	0.4571	0.5427
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
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
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
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
Measured Red Stimulus	0.0535	0.1058	0.1553	0.2005	0.2524	0.2979	0.3493	0.4011	0.4540	0.5021	0.5481	0.5962	0.6478	0.6974	0.7481
Measured Green Stimulus	0.0533	0.1051	0.1556	0.2002	0.2509	0.2987	0.3495	0.4016	0.4542	0.5017	0.5481	0.5974	0.6479	0.6963	0.7488
Measured Blue Stimulus	0.0549	0.1062	0.1558	0.1994	0.2494	0.2973	0.3499	0.4030	0.4535	0.5004	0.5475	0.5984	0.6483	0.6965	0.7480
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
Target X cd/m²	0.0422	0.2226	0.5889	1.1747	2.0068	3.1084	4.5000	6.2000	8.2254	10.5920	13.0517	16.1096	19.5491	23.3826	27.6222
Target Y cd/m²	0.0444	0.2342	0.6196	1.2359	2.1114	3.2704	4.7345	6.5231	8.6541	11.1439	13.7319	16.9491	20.5678	24.6012	29.0618
Target Z cd/m²	0.0483	0.2550	0.6748	1.3459	2.2992	3.5614	5.1557	7.1035	9.4240	12.1354	14.9536	18.4571	22.3977	26.7899	31.6474
Target Xn 0-1	0.0007	0.0038	0.0101	0.0202	0.0345	0.0534	0.0773	0.1066	0.1414	0.1821	0.2243	0.2769	0.3360	0.4019	0.4748
Target Yn 0-1	0.0008	0.0040	0.0107	0.0212	0.0363	0.0562	0.0814	0.1121	0.1488	0.1915	0.2360	0.2913	0.3535	0.4229	0.4995

Nav Bar

CAL

Calib

Prepare

Calibrate

Calib

Analyze

CAL

Notes Mgmt

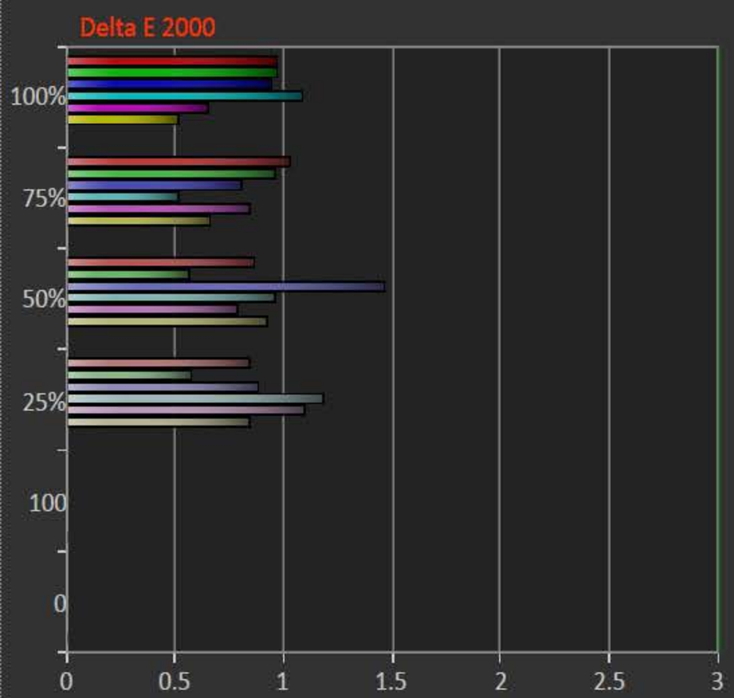
CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Saturation Sweeps

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Saturation Sweeps Calibration



Summary

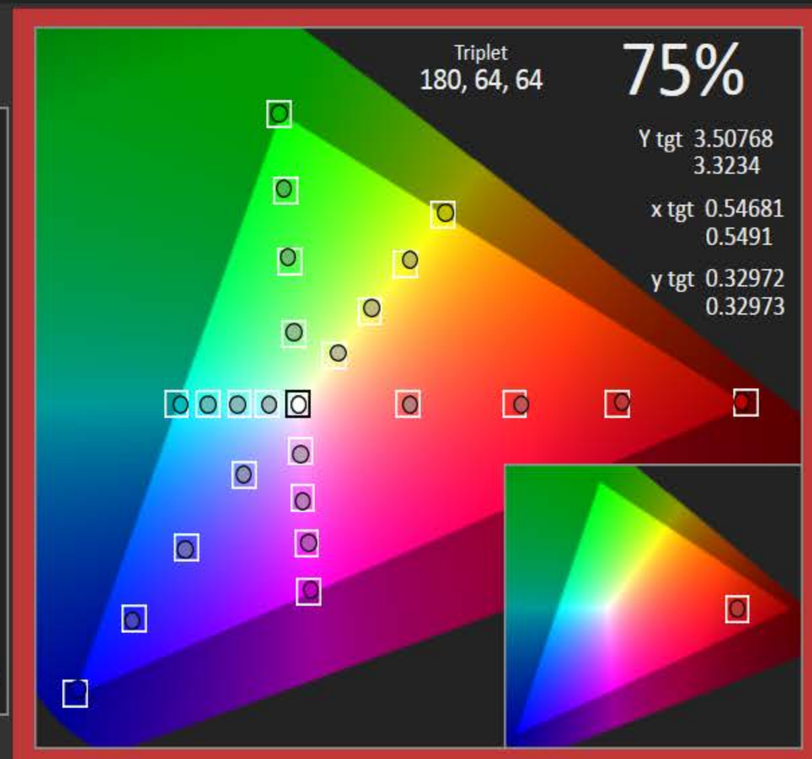
Delta E 2000
Avg 0.84
Max 1.46

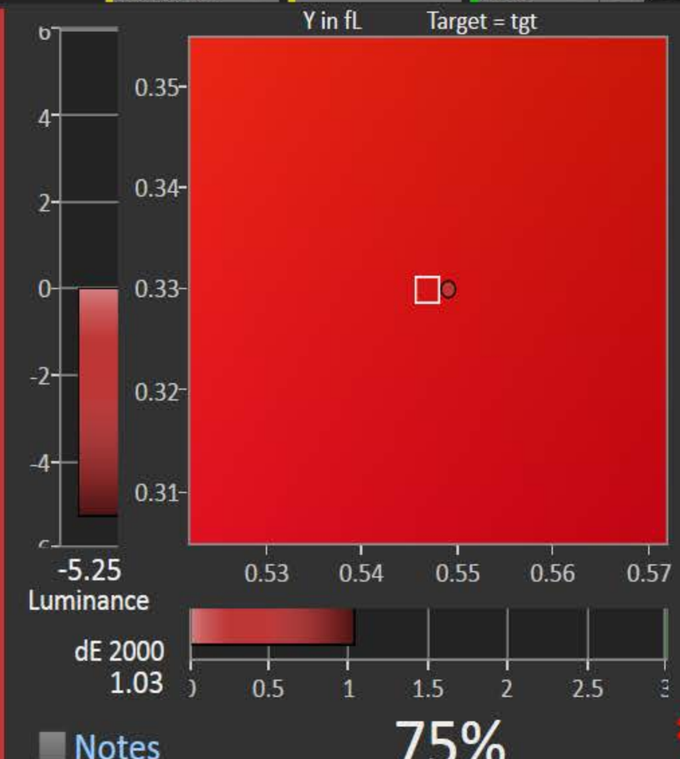
Delta L
Avg 0.885
Max 1.466

Delta H
Avg 0.202
Max 0.884

Delta C
Avg 0.9867
Max 4.492

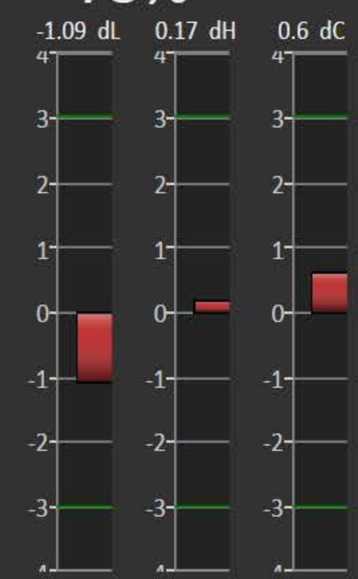
White 24.3





Notes

75%



Nav Bar
CAL
Satur
Back
Next
Sa+Dta
Prepare
Setup
PreCal Read
DyRng
Calibrate
Gray
Sa+Dta
Lumi
C Chk
3d Cb
PostCal Read
Analyze
Satur
Final Check

RGB | DDC | Notes | Luminance

Display Slot: ISF Day

Sweep Level: 25% Sweeps

← For basic CMS set to 70%/100% Only

Satur

25% | 50% | 75% | 100%

Notes

Back | Next

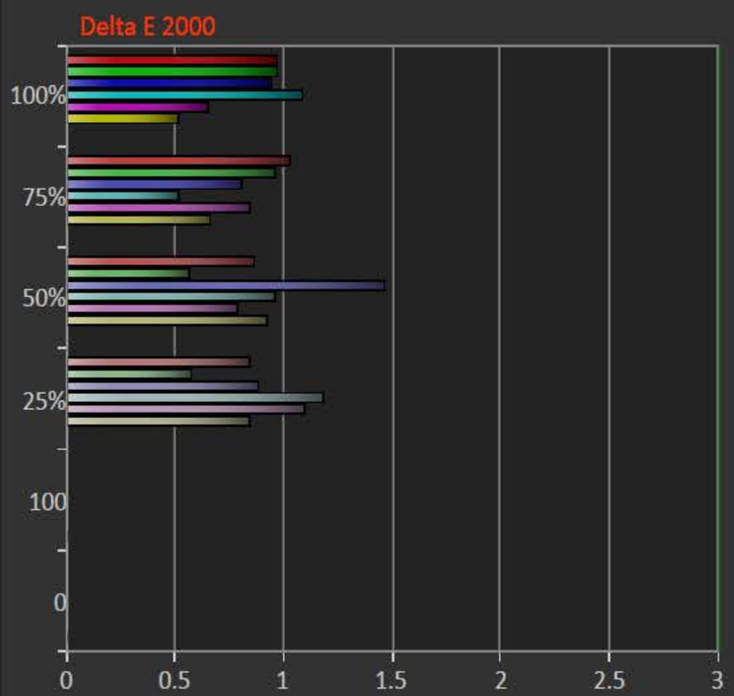
CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Saturation Sweeps

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Saturation Sweeps Calibration



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Max 1.466

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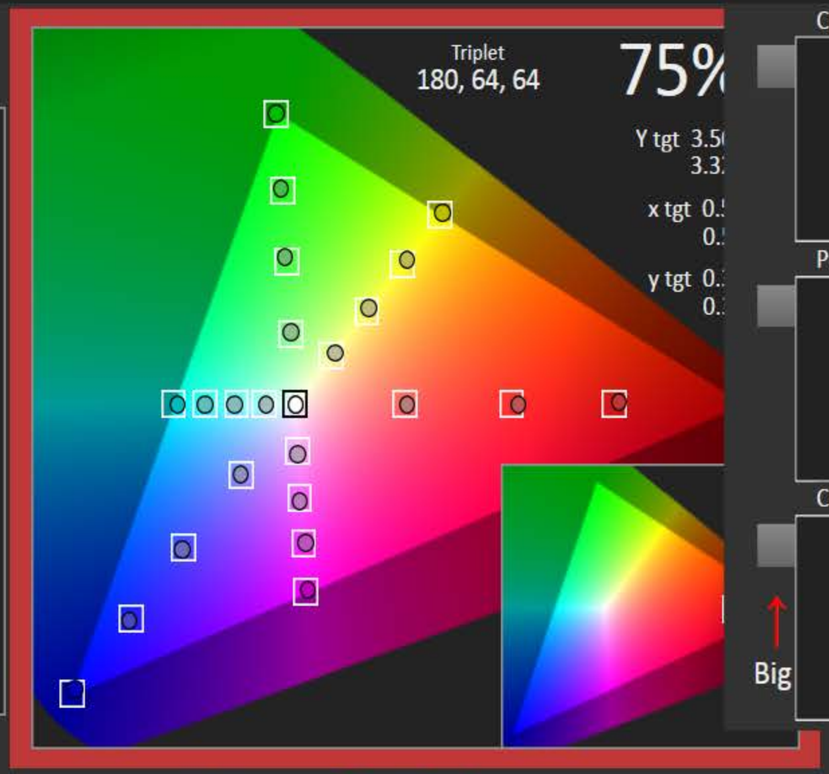
Avg 0.202
Max 0.884

Delta C
Avg 0.9867
Max 4.492

White 24.3



Color Notes — Target = tgt

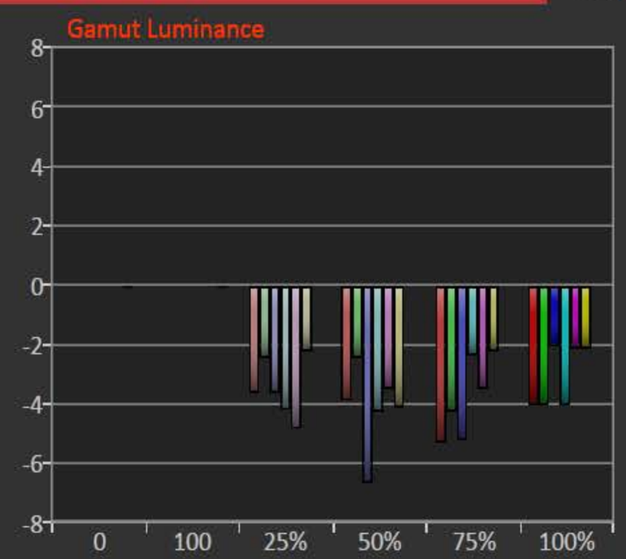
Post-Calibration Notes

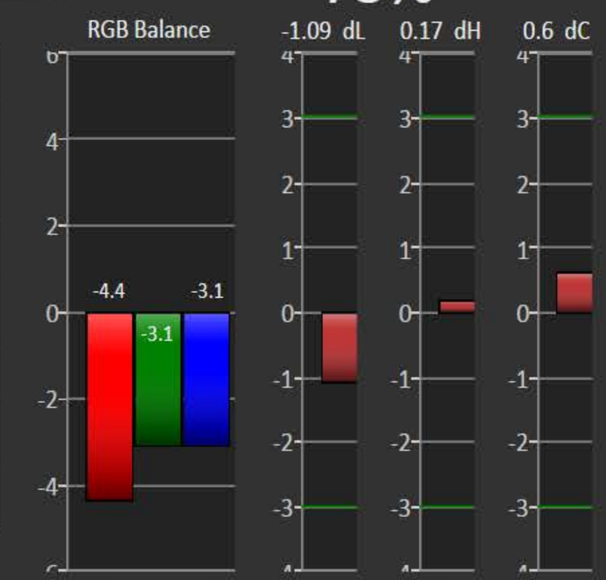
Calibration Description / Goals

Big

Notes

75%





Lumi | C Chk | 3d Cb | PostCal Read | Analyze | Satur | Final Check

RGB | DDC | Notes | Luminance

Display Slot: ISF Day

Sweep Level: 25% Sweeps

← For basic CMS set to 70%/100% Only

Satur

25% | 50% | 75% | 100%

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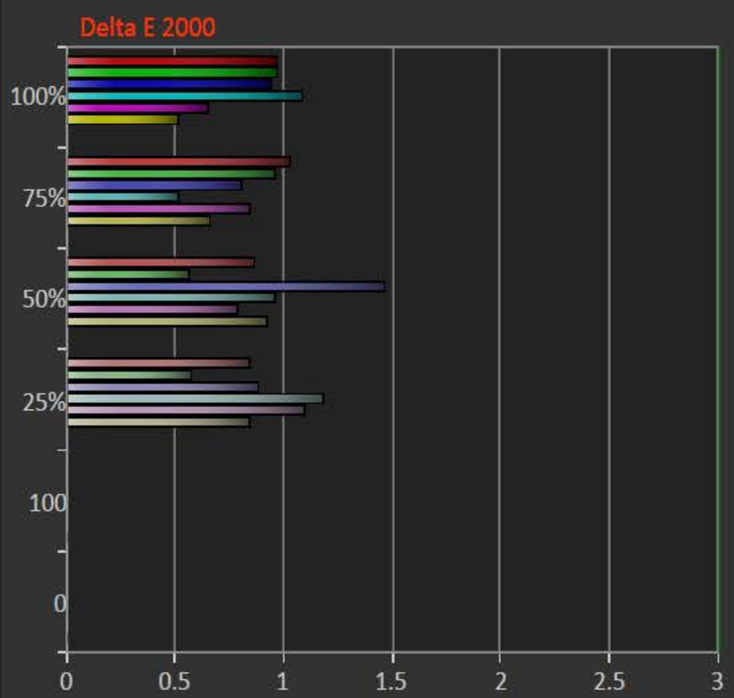
CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Saturation Sweeps

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Saturation Sweeps Calibration



Summary

Delta E 2000
Avg 0.84
Max 1.46

Delta L
Avg 0.885
Max 1.466

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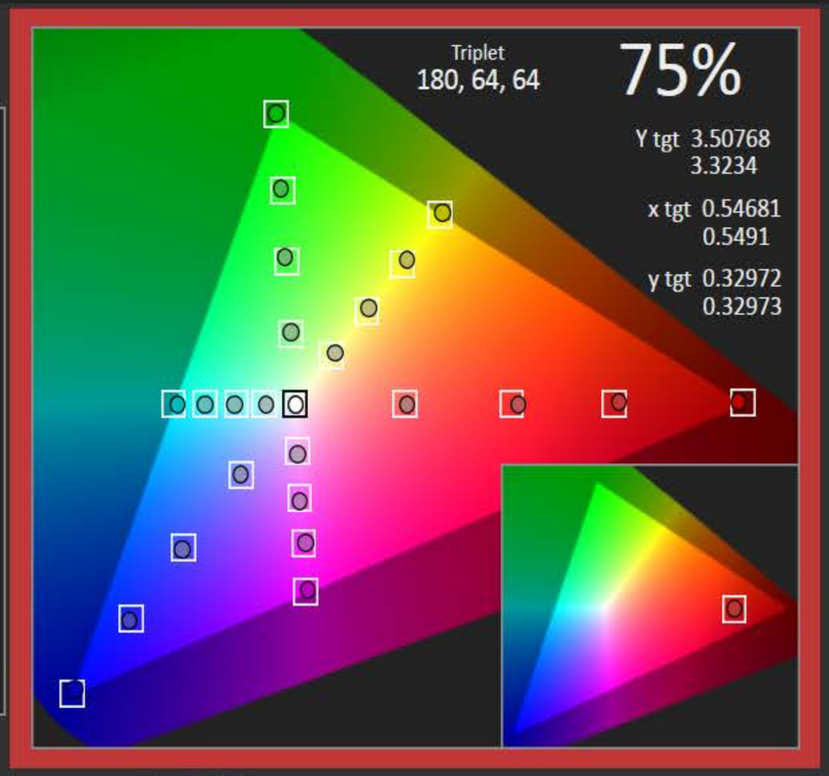
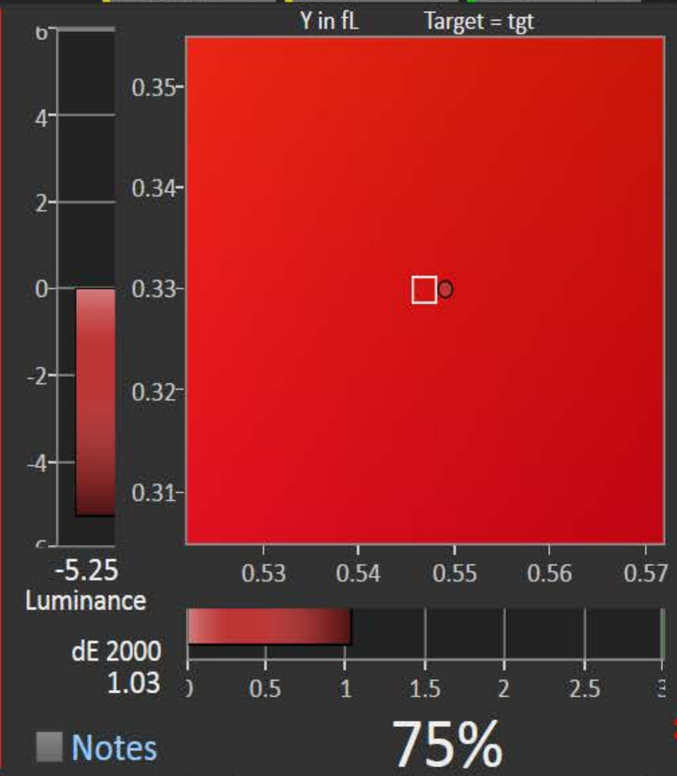
Avg 0.202
Max 0.884

Delta C
Avg 0.9867
Max 4.492

White 24.3



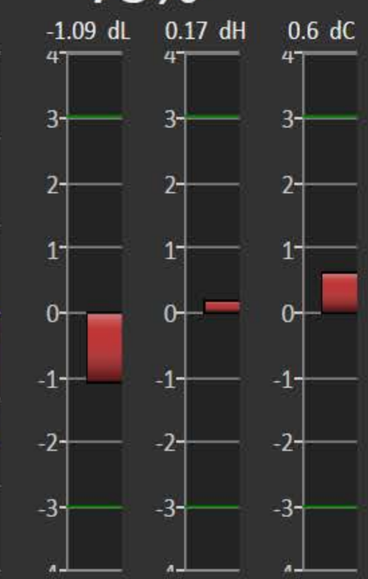


Notes

75%

	Hue	Saturation	Luminance
Red	28	36	32
Green	34	48	26
Blue	41	37	37
Cyan	22	41	20
Magenta	34	39	24
Yellow	23	32	37

Reset CMS



Nav Bar
CAL
Satur
Back
Next
Sa+Dta
Prepare
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PreCal Read
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Sa+Dta
Lumi
C Chk
3d Cb
PostCal Read
Analyze
Satur
Final Check

RGB | DDC | Notes | Luminance

Display Slot: ISF Day

Sweep Level: 25% Sweeps

← For basic CMS set to 70%/100% Only

Satur

25% 50% 75% 100%

Notes

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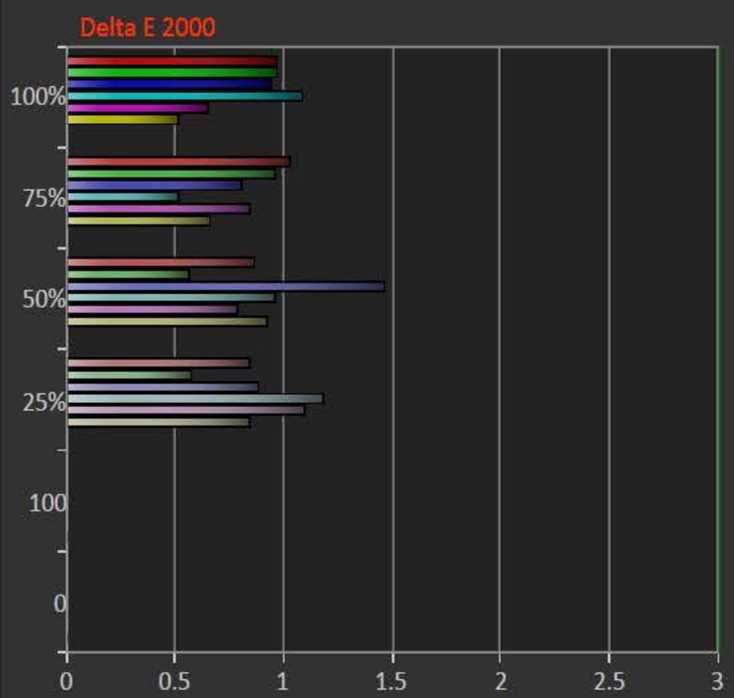
CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Saturation Sweeps

Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Saturation Sweeps Calibration



Summary

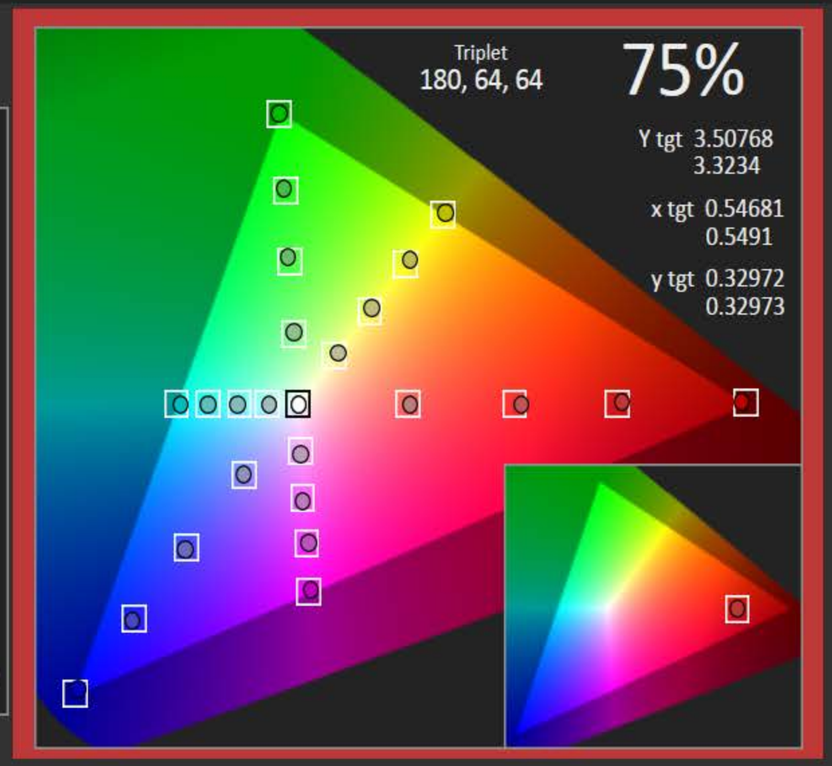
Delta E 2000
Avg 0.84
Max 1.46

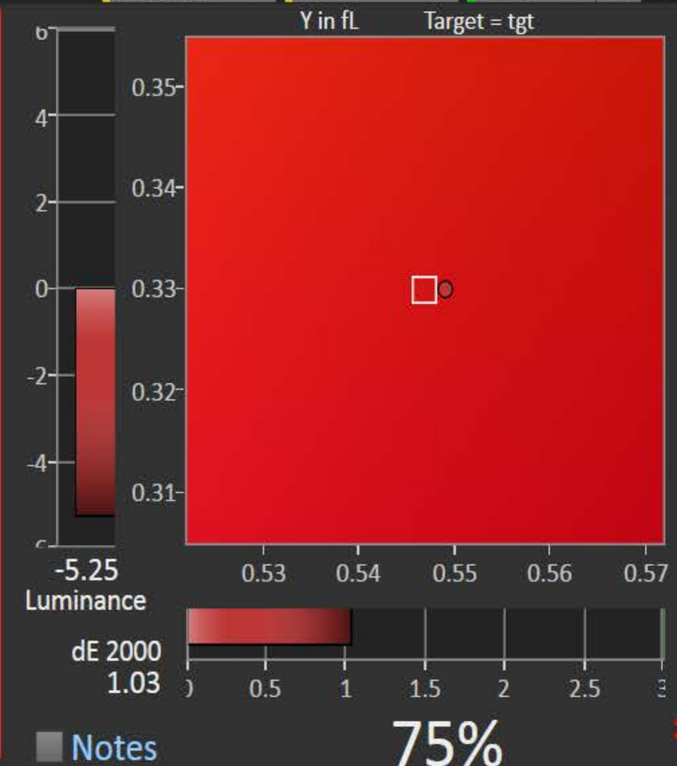
Delta L
Avg 0.885
Max 1.466

Delta H
Avg 0.202
Max 0.884

Delta C
Avg 0.9867
Max 4.492

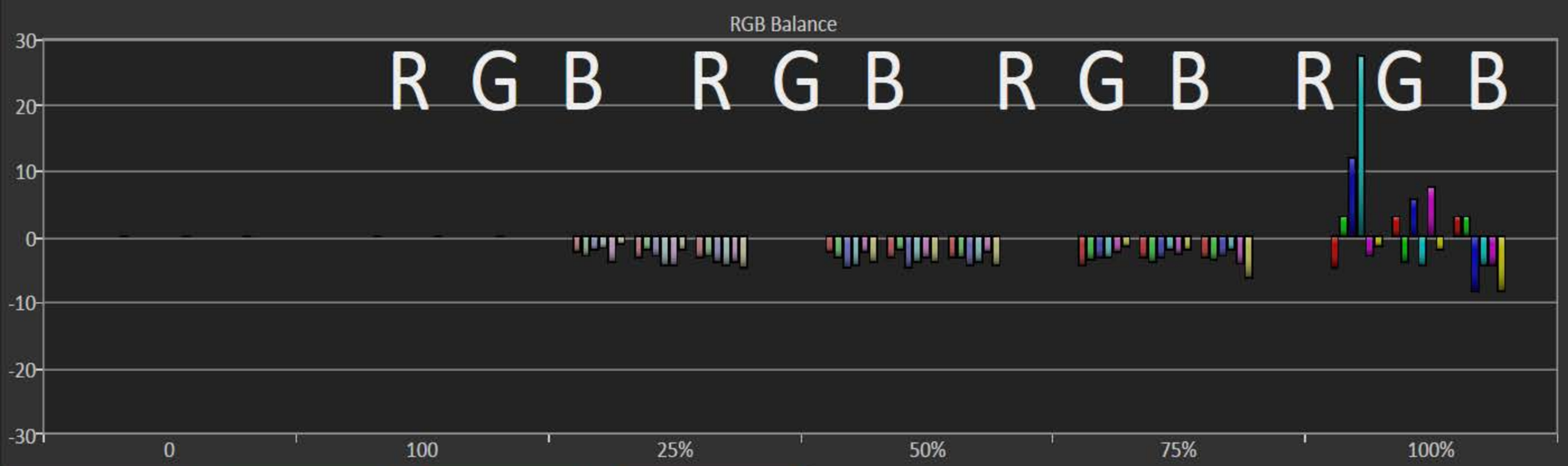
White 24.3

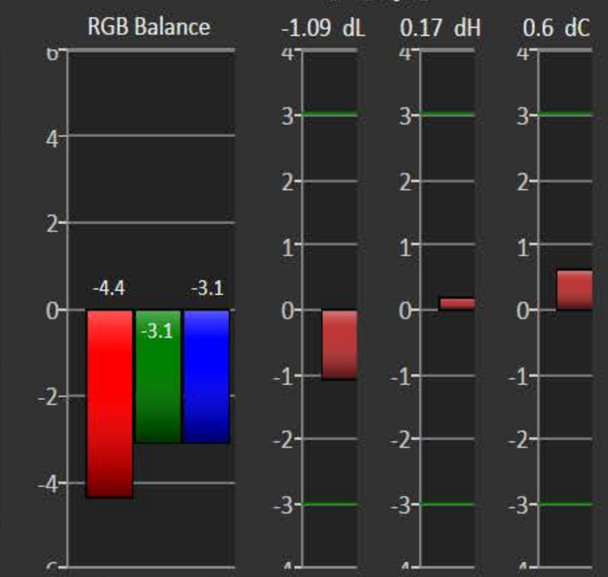




Notes

75%





Nav Bar
CAL
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Prepare
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3d Cb
PostCal Read
Analyze
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Final Check

RGB | DDC | Notes | Luminance

Display Slot: ISF Day

Sweep Level: 25% Sweeps

← For basic CMS set to 70%/100% Only

Satur

25% 50% 75% 100%

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CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Datagrid

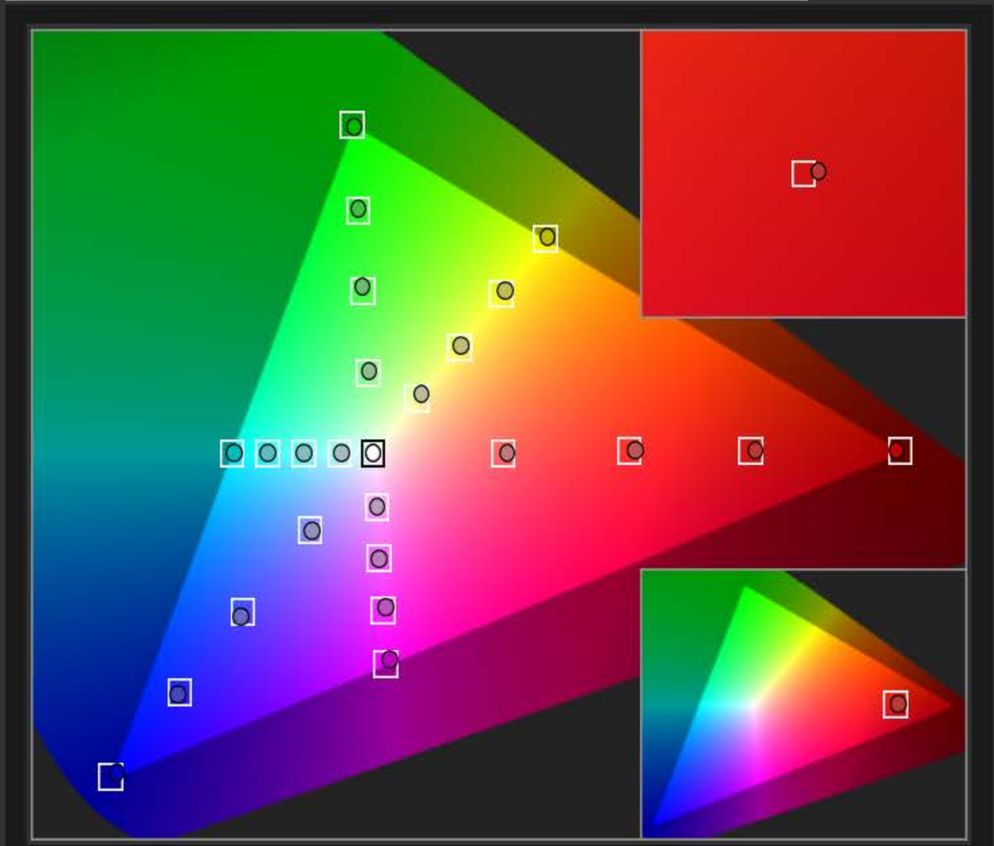
Simulated Meter LCD Direct View | Source | Sharp Elite ISF Day

Saturation Sweep Calibration Data

Color Notes

Post-Calibration Notes

75%



	25%	50%	75%	100%
RGB Triplet	180, 123, 123	180, 90, 90	180, 64, 64	180, 16, 16
RedIndex	180.00000	180.00000	180.00000	180.00000
GreenIndex	123.00000	90.00000	64.00000	16.00000
BlueIndex	123.00000	90.00000	64.00000	16.00000
X	26.47807	21.67141	18.96268	17.31783
Y cd/m²	22.05738	15.02344	11.38681	8.97979
Z	18.45448	8.89915	4.18460	0.91476
Xn 0-1	0.31840	0.26060	0.22802	0.20824
Yn 0-1	0.26524	0.18066	0.13693	0.10798
Zn 0-1	0.22191	0.10701	0.05032	0.01100
Stimulus Percent	0.74886	0.74886	0.74886	0.74886
RED Stim%:0-1	0.74886	0.74886	0.74886	0.74886
GRN Stim%:0-1	0.48858	0.33790	0.21918	0.00000
BLU Stim%:0-1	0.48858	0.33790	0.21918	0.00000
Measured Red Stimulus	0.74177	0.74177	0.73514	0.73514
Measured Green Stimulus	0.47768	0.32700	0.20762	-0.00053
Measured Blue Stimulus	0.47767	0.32699	0.20761	-0.00053
Stimulus	75.00000	75.00000	75.00000	75.00000
Target X cd/m²	27.31043	22.37036	19.93121	18.13761
Target Y cd/m²	22.88504	15.62086	12.01822	9.35221
Target Z cd/m²	19.31080	9.41790	4.50061	0.85020
Target Xn 0-1	0.32840	0.26900	0.23967	0.21810
Target Yn 0-1	0.27519	0.18784	0.14452	0.11246
Target Zn 0-1	0.23221	0.11325	0.05412	0.01022
TargetGamut:Nrml Y	0.52488	0.52539	0.52587	0.52647
TargetRED:Lin0-1	0.52545	0.52653	0.52756	0.52883
TargetGRN:Lin0-1	0.20760	0.09636	0.04106	0.00000

25% | 50% | 75% | 100%

Nav Bar

CAL

Calib

Prepare

Calibrate

Calib

Analyze

CAL

Notes Mgmt

CalMAN 5 CalMAN Enthusiast for Home Video

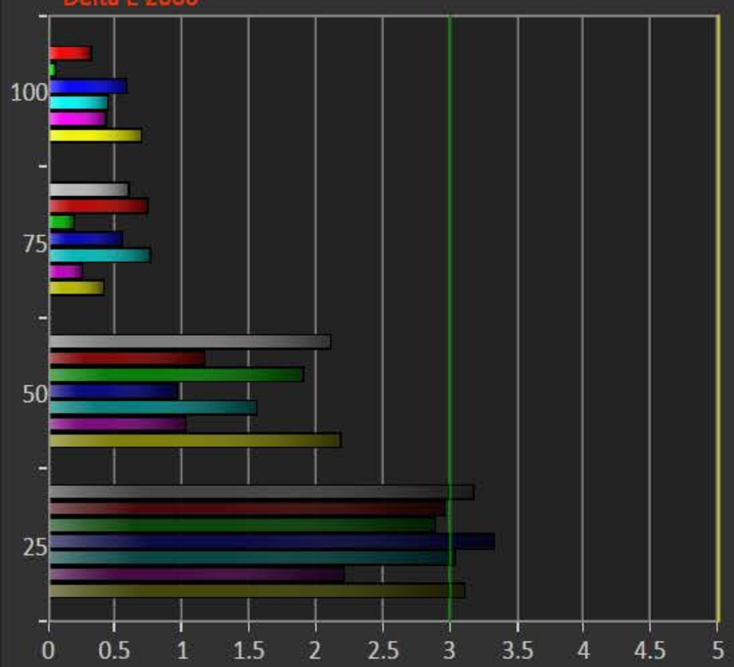
CalMAN 5

Gamut Luminance

Simulated Meter LCD Direct View | Source | Direct Display Control

Gamut Luminance Calibration

Delta E 2000



Summary

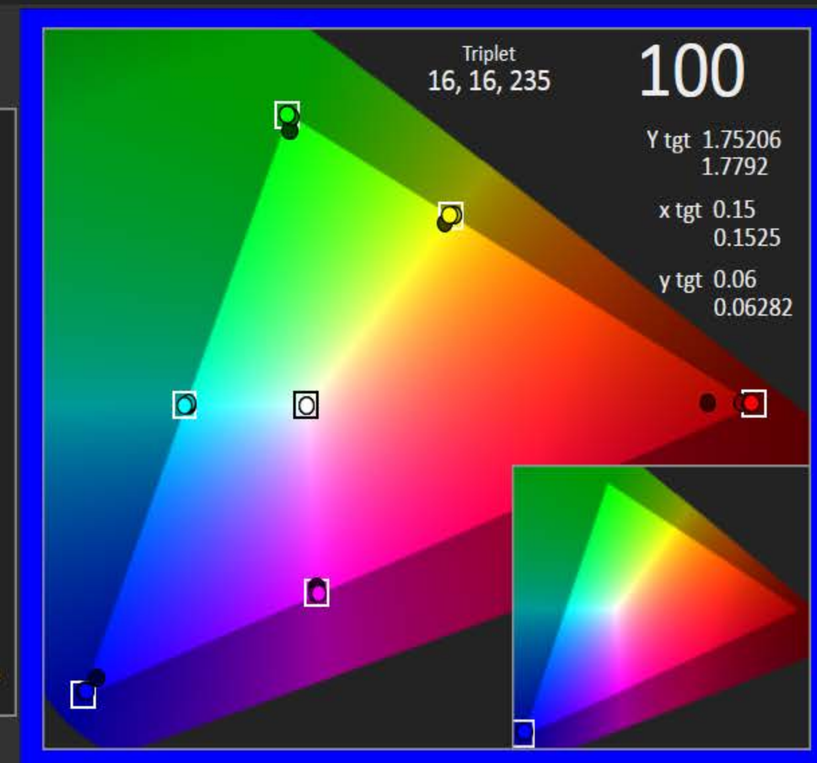
Delta E 2000
Avg 1.35
Max 3.34

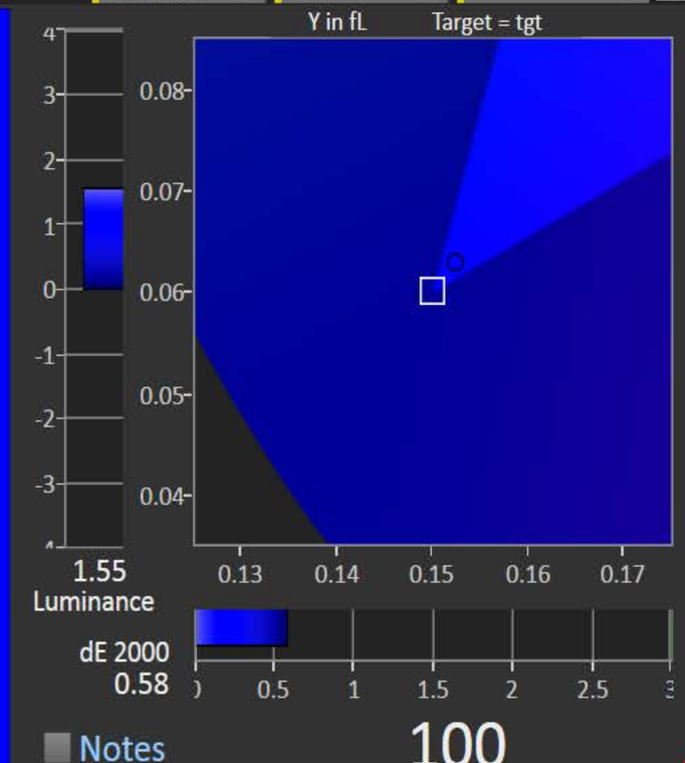
Delta L
Avg 1.531
Max 4.379

Delta H
Avg 0.469
Max 2.736

Delta C
Avg 1.403
Max 9.017

White 24.3





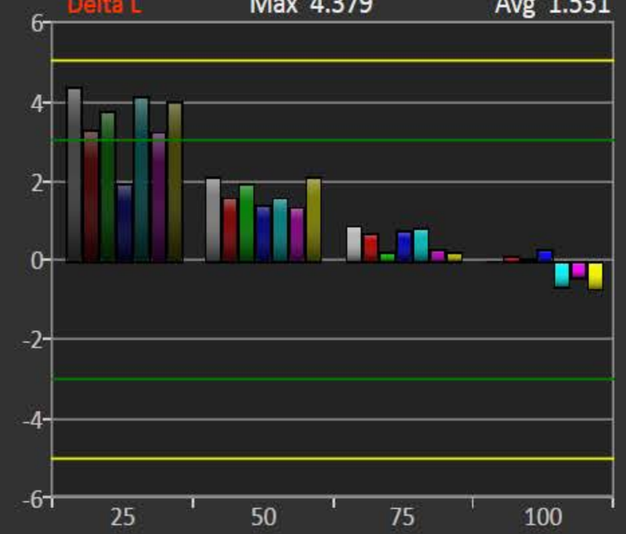
Notes

100

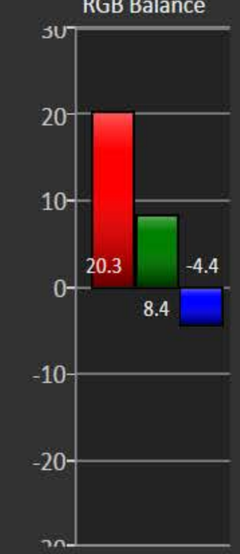
Delta C Max 9.017 Avg 1.403

Delta H Max 2.736 Avg 0.469

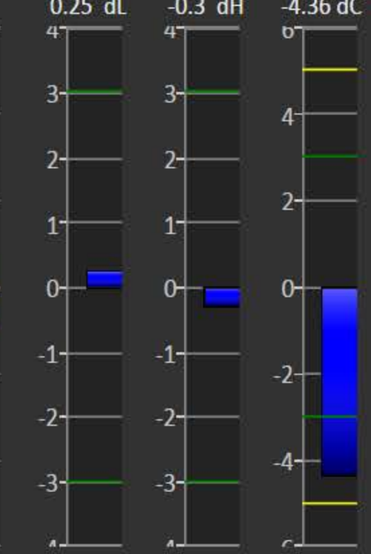
Delta L Max 4.379 Avg 1.531



RGB Balance



0.25 dL -0.3 dH -4.36 dC



Nav Bar
CAL
Lumi
Back
Next
Lu+Dta
Prepare
Setup
PreCal Read
DyRng
Calibrate
Gray
Satur
Lu+Dta
C Chk
3d Cb
PostCal Read
Analyze
Lumi
Final Check
Lumi

RGB DDC Notes Luminance

Display Slot

Ramp Levels 4 Point 25% step 25-100%

25 50 75 100

Notes Back Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Color Checker

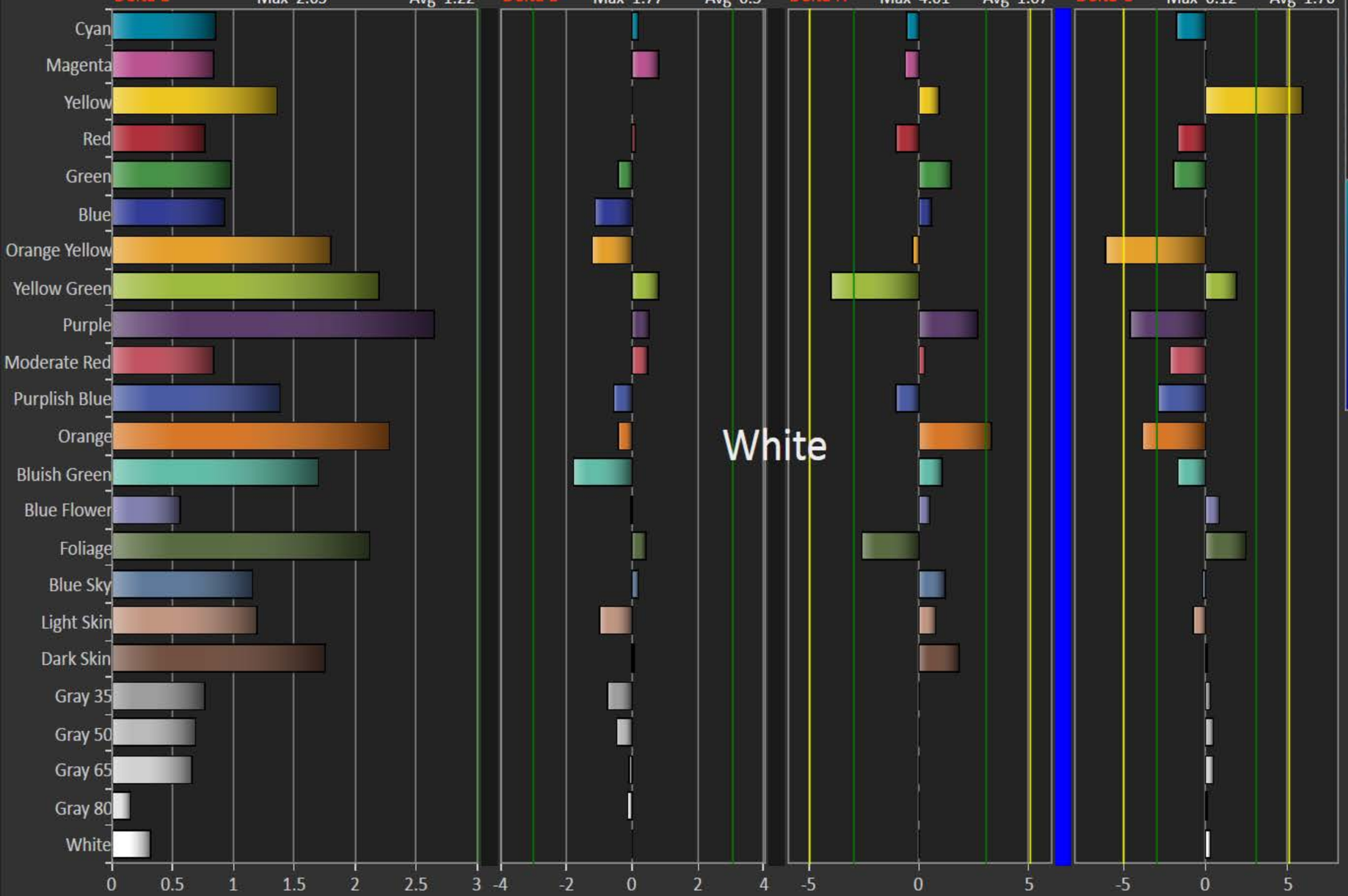
Simulated Meter LCD Direct View | Source | Lumagen Radiance 3D LUT CMS 6

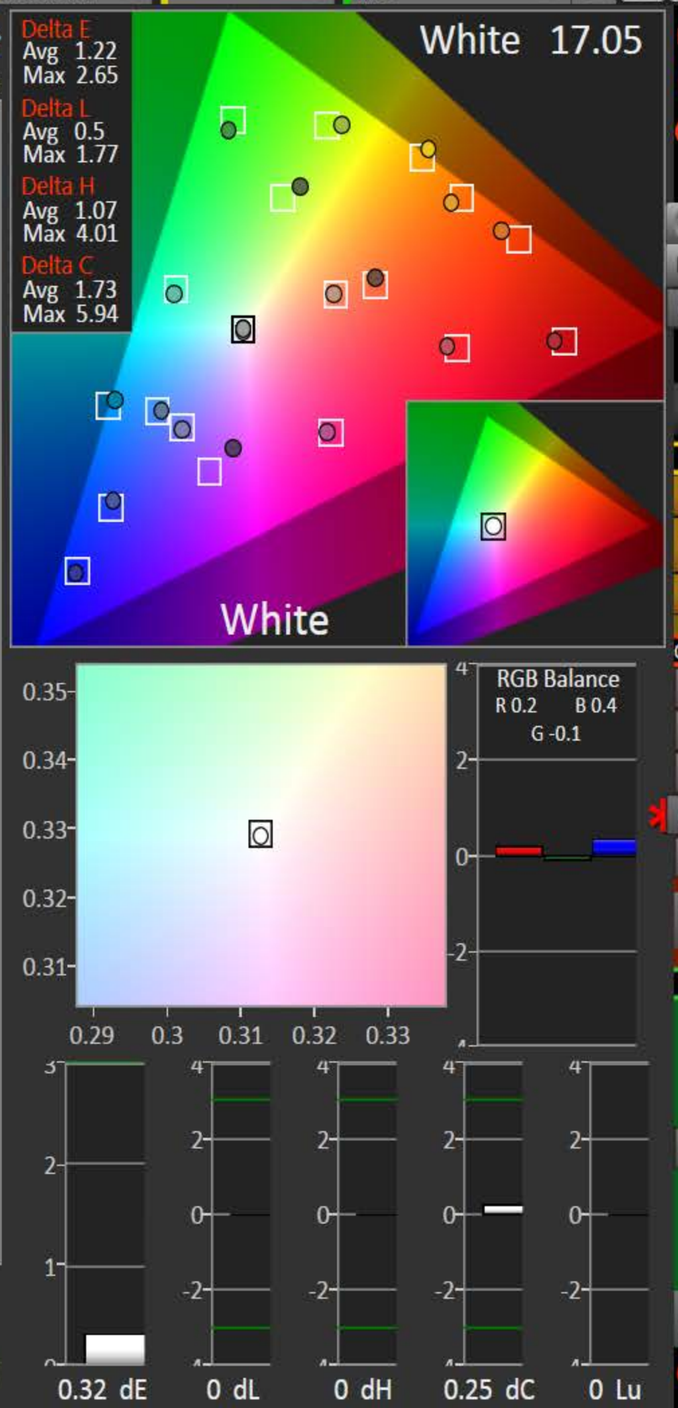
Color Checker Calibration

White

Summary →

	Delta E	Delta L	Delta H	Delta C
Max	2.65	1.77	4.01	6.12
Avg	1.22	0.5	1.07	1.76





Nav Bar CAL CChkr

Back | Next | Cc+Dta | Prepare | Setup | PreCal Read | DyRng | Calibrate | Gray | Satur | Lumi | Cc+Dta | 3d Cb | PostCal Read | Analyze | C Chk | Final Check | CChkr | Notes

Slim Datagrid | Comparator | Notes | DDC

Display Slot: CMS 6

Triplet	Y tgt	x tgt	y tgt
235, 235, 235	17.04648	0.31271	0.32901
	17.04648	0.31265	0.32859

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

Back | Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

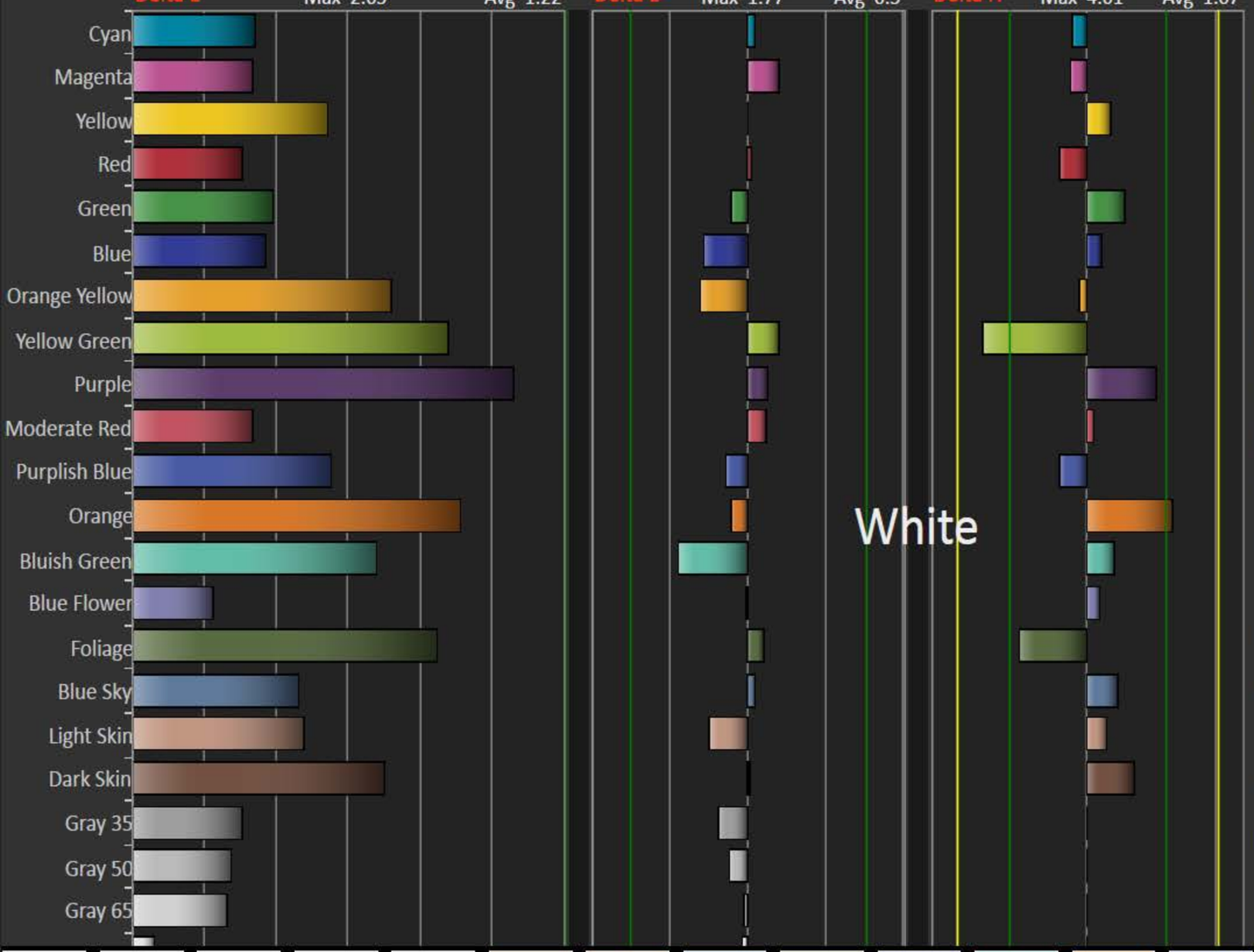
Color Checker

Simulated Meter LCD Direct View | Source | Lumagen Radiance 3D LUT CMS 6

Color Checker Calibration

White

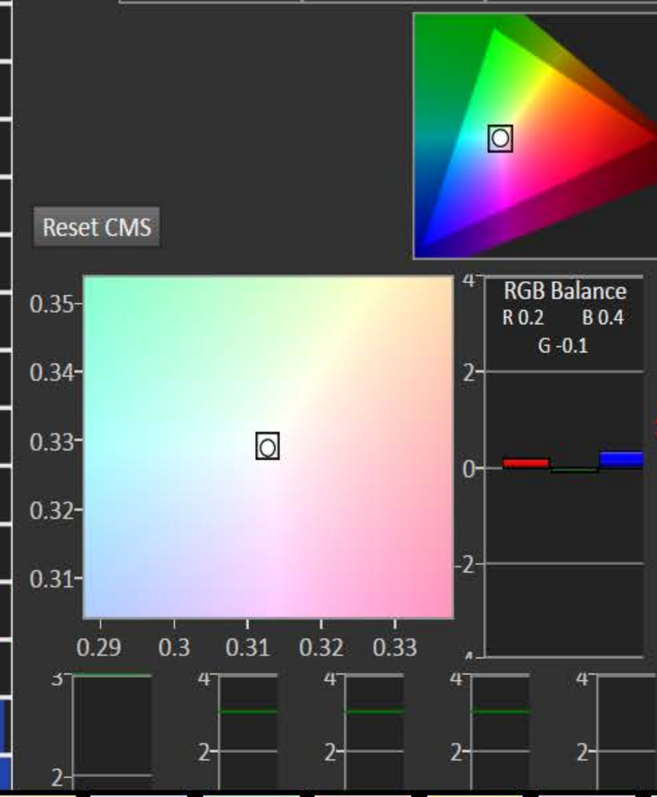
Delta E Max 2.65 Avg 1.22 | Delta L Max 1.77 Avg 0.5 | Delta H Max 4.01 Avg 1.07



	Red	Green	Blue
0	0	0	0
5	5.4	5.4	5.4
10	10	10	9.9
15	14.8	15.1	14.7
20	19.9	19.9	19.9
25	24.6	24.7	24.7
30	29.9	29.9	29.9
35	34.9	34.9	34.6
40	40.2	40	40.1
45	44.9	45.1	45
50	49.9	50	50
55	55.9	55.4	55.9
60	60.3	60.2	60
65	65.2	65	65
70	70.2	70.3	70.3
75	75.6	75.5	75.6
80	80.1	80	80.2
85	84.8	84.8	84.4
90	90.8	90.8	90.4
95	95.3	95.3	95.3

	Hue	Saturation	Luminance
Red	0	0	0
Green	0	0	0
Blue	0	0	0
Cyan	0	0	0
Magenta	0	0	0
Yellow	0	0	0

Reset CMS



Nav Bar: CAL CChkr | Back | Next | Cc+Dta | Prepare | Setup | PreCal Read | DyRng | Calibrate | Gray | Satur | Lumi | Cc+Dta | 3d Cb | PostCal Read | Analyze | C Chk

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

Slim Datagrid | Comparator | Notes | DDC

Display Slot: CMS 6

Triplet 235, 235, 235 | Y tgt 17.04648 17.04648 | x tgt 0.31271 0.31265 | y tgt 0.32901 0.32859

0.32 dE | 0 dL | 0 dH | 0.25 dC | 0 Lu

Check | CChkr | Notes | Back | Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Color Checker

Simulated Meter LCD Direct View | Source | Lumagen Radiance 3D LUT CMS 6

Color Checker Calibration

White

Summary →

	Delta E	Delta L	Delta H	Delta C
Max	2.65	1.77	4.01	6.12
Avg	1.22	0.5	1.07	1.76

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

Delta E Avg 1.22 Max 2.65
Delta L Avg 0.5 Max 1.77
Delta H Avg 1.07 Max 4.01
Delta C Avg 1.73 Max 5.94

White 17.05

White

Color Notes

Post-Calibration Notes

Calibration Description / Goals

Big

RGB Balance
R 0.2 B 0.4
G -0.1

0.32 dE | 0 dL | 0 dH | 0.25 dC | 0 Lu

Nav Bar: CAL, CChkr, Back, Next, Cc+Slm, Prepare, Setup, PreCal Read, DyRng, Calibrate, Gray, Satur, Lumi, Cc+Slm, 3d Cb, PostCal Read, Analyze, C Chk, Final Check, CChkr, Notes

Slim Datagrid | Comparator | Notes | DDC

Display Sl

CMS 6

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

Back | Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Datagrid

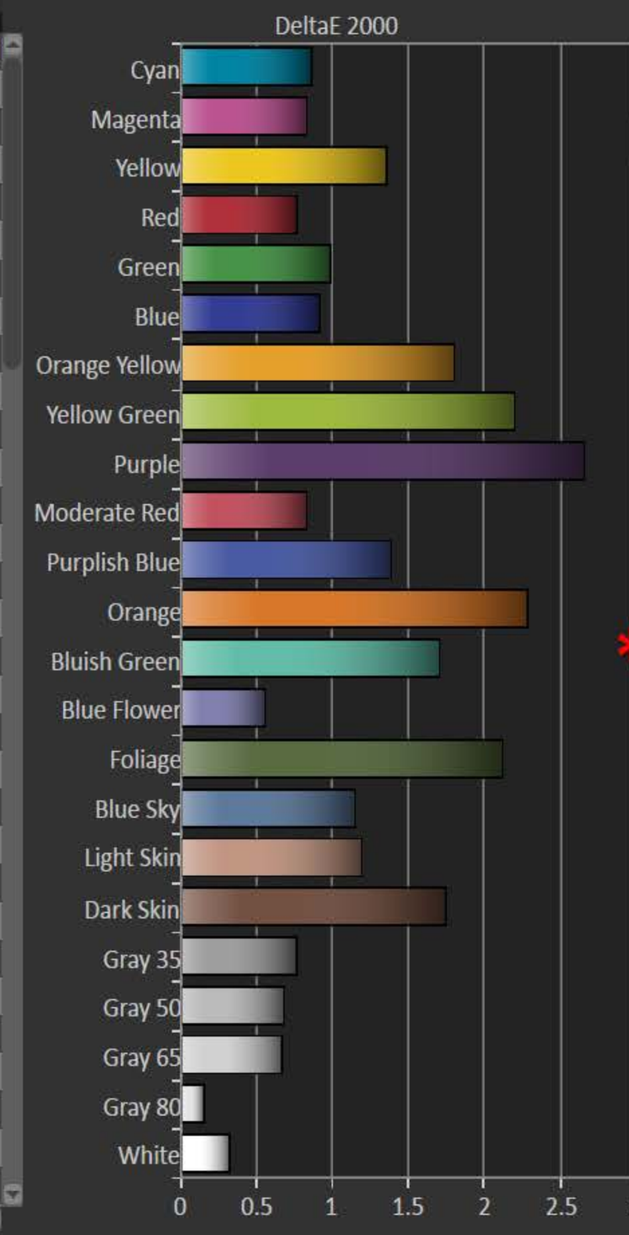
Simulated Meter LCD Direct View | Source | Lumagen Radiance 3D LUT CMS 6

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
RedIndex	235.0000	213.0000	196.0000	176.0000	152.0000	115.0000	182.0000	97.0000	93.0000	128.0000	101.0000	202.0000
GreenIndex	235.0000	213.0000	196.0000	176.0000	152.0000	86.0000	145.0000	121.0000	108.0000	126.0000	178.0000	119.0000
BlueIndex	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	55.5722	42.8900	34.4776	25.8161	17.1609	5.2731	19.4570	9.2252	5.1694	13.2228	15.6518	18.7569
Y cd/m²	58.4057	45.1130	36.3802	27.0903	18.0982	4.7360	18.2567	9.6718	6.5393	12.1980	21.6937	15.0291
Z	63.7690	49.2207	39.4327	29.6920	19.6385	2.6825	13.0990	18.4053	2.8178	24.5694	23.1594	2.6977
Xn 0-1	0.9515	0.7343	0.5903	0.4420	0.2938	0.0903	0.3331	0.1580	0.0885	0.2264	0.2680	0.3211
Yn 0-1	1.0000	0.7724	0.6229	0.4638	0.3099	0.0811	0.3126	0.1656	0.1120	0.2088	0.3714	0.2573
Zn 0-1	1.0918	0.8427	0.6752	0.5084	0.3362	0.0459	0.2243	0.3151	0.0482	0.4207	0.3965	0.0462
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	1.0008	0.8979	0.8188	0.7275	0.6124	0.4473	0.7411	0.3834	0.3678	0.5145	0.3828	0.8206
Measured Green Stimulus	0.9996	0.8979	0.8218	0.7254	0.6143	0.3233	0.5820	0.4787	0.4222	0.5004	0.7193	0.4819
Measured Blue Stimulus	1.0013	0.8988	0.8191	0.7284	0.6127	0.2533	0.5026	0.6123	0.2416	0.6930	0.6520	0.1699
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	55.5126	43.0571	34.6721	26.1345	17.6937	5.3519	20.3597	9.0335	4.9823	13.1367	16.5328	19.8223
Target Y cd/m²	58.4057	45.3010	36.4790	27.4965	18.6158	4.7184	18.9582	9.5938	6.3880	12.2124	23.1080	15.2772
Target Z cd/m²	63.6020	49.3314	39.7245	29.9428	20.2721	2.8135	13.6382	18.3716	3.1552	24.3030	24.1278	2.5827
Target Xn 0-1	0.9505	0.7372	0.5936	0.4475	0.3029	0.0916	0.3486	0.1547	0.0853	0.2249	0.2831	0.3394
Target Yn 0-1	1.0000	0.7756	0.6246	0.4708	0.3187	0.0808	0.3246	0.1643	0.1094	0.2091	0.3956	0.2616
Target Zn 0-1	1.0890	0.8446	0.6801	0.5127	0.3471	0.0482	0.2335	0.3146	0.0540	0.4161	0.4131	0.0442
TargetGamut:Nrml Y	1.0000	0.7756	0.6246	0.4708	0.3187	0.1488	0.5143	0.3076	0.1247	0.4097	0.4850	0.6757
TargetRED:Lin0-1	1.0000	0.7756	0.6246	0.4708	0.3187	0.1488	0.5143	0.0919	0.0814	0.2000	0.1032	0.6757
TargetGRN:Lin0-1	1.0000	0.7756	0.6246	0.4708	0.3187	0.0647	0.2808	0.1713	0.1247	0.1915	0.4850	0.1636
TargetBLU:Lin0-1	1.0000	0.7756	0.6246	0.4708	0.3187	0.0395	0.2000	0.3076	0.0395	0.4097	0.3717	0.0123
TargetGamut:Nrml MaxY	1.0000	1.0000	1.0000	1.0000	1.0000	0.5431	0.6312	0.5340	0.8768	0.5103	0.8157	0.3871
Target x:CIE31	0.3127	0.3127	0.3127	0.3127	0.3127	0.4154	0.3845	0.2442	0.3430	0.2646	0.2593	0.5260
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3662	0.3580	0.2593	0.4398	0.2460	0.3624	0.4054



Nav Bar

Calib

Prepare

Calibrate

Calib

Analyze

CAL

Notes Mgmt

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Datagrid 1 Datagrid 2

Simulated Meter LCD Direct View | Source | Lumagen Radiance 3D LUT CMS 6

Color Checker Calibration Data Slim 1

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	Yellow	Magenta
X	55.5722	42.8900	34.4776	25.8161	17.1609	5.2731	19.4570	9.2252	5.1694	13.2228	15.6518	18.7569	6.3133	14.8300	4.1210	18.9091	24.4619	3.9179	7.1455	10.4975	31.7103	15.9973
Y cd/m²	58.4057	45.1130	36.3802	27.0903	18.0982	4.7360	18.2567	9.6718	6.5393	12.1980	21.6937	15.0291	5.5261	9.8987	3.0949	24.4426	22.5089	2.6171	11.8389	6.0305	33.5754	10.2089
Z	63.7690	49.2207	39.4327	29.6920	19.6385	2.6825	13.0990	18.4053	2.8178	24.5694	23.1594	2.6977	18.2243	6.7309	6.3679	5.2971	4.6800	15.0384	4.7808	2.3919	4.2011	16.2029
Target x:CIE31	0.3127	0.3127	0.3127	0.3127	0.3127	0.4154	0.3845	0.2442	0.3430	0.2646	0.2593	0.5260	0.2083	0.4790	0.2855	0.3781	0.4831	0.1823	0.3044	0.5631	0.4516	0.3803
x: CIE31	0.3126	0.3126	0.3126	0.3125	0.3126	0.4155	0.3829	0.2473	0.3559	0.2645	0.2587	0.5141	0.2100	0.4714	0.3034	0.3887	0.4736	0.1816	0.3007	0.5548	0.4564	0.3772
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3662	0.3580	0.2593	0.4398	0.2460	0.3624	0.4054	0.1782	0.3124	0.2084	0.5025	0.4408	0.1241	0.5061	0.3198	0.4749	0.2409
y: CIE31	0.3286	0.3288	0.3299	0.3280	0.3297	0.3732	0.3593	0.2593	0.4502	0.2440	0.3585	0.4119	0.1838	0.3146	0.2278	0.5024	0.4358	0.1213	0.4982	0.3187	0.4832	0.2407
Target Y	17.0465	13.2217	10.6469	8.0252	5.4333	1.3771	5.5332	2.8001	1.8644	3.5644	6.7444	4.4588	1.6648	2.8286	0.8720	6.9394	6.8555	0.8273	3.5228	1.7524	9.7986	2.8714
Y	17.0465	13.1668	10.6181	7.9067	5.2822	1.3823	5.3285	2.8228	1.9086	3.5602	6.3316	4.3864	1.6129	2.8891	0.9033	7.1339	6.5695	0.7638	3.4553	1.7601	9.7994	2.9796
Sat: L*u*v*	0.3379	0.1872	0.6344	0.6133	0.3826	28.4334	36.1678	35.4403	31.0652	42.3047	40.2178	90.4862	59.7343	79.3172	28.1917	73.7962	83.5179	66.3657	58.3914	96.6113	93.8172	67.7368
Hue: L*u*v*	295.8808	265.1658	131.7646	295.5231	134.1760	35.2863	35.3858	247.6726	102.2823	268.2608	170.9065	34.2626	259.6883	7.7905	299.5903	96.7453	48.4336	264.2397	129.0390	10.0058	67.9670	334.236
L*	100.0000	90.4323	83.0668	73.7934	62.4968	34.2085	62.7252	47.7004	39.9092	52.8234	67.3844	57.7820	36.8581	48.1948	27.5703	70.7672	68.4160	25.2014	52.1412	38.4199	80.4525	48.8583
Gamma Point: Flat	2.4000	2.4393	2.4138	2.4474	2.4592	3.1642	4.1969	3.6606	2.5246	4.2124	3.2851	8.3112	5.2700	6.4060	3.3872	2.7751	9.0065	5.8674	2.9291	6.1071	7.8028	5.5564

Nav Bar

Calib

Prepare

Calibrate

Calib

Data2

Analyze

CAL

Notes Mgmt

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Datagrid 1 | Datagrid 2

Simulated Meter LCD Direct View | Source | Lumagen Radiance 3D LUT CMS 6

Color Checker Calibration Data Slim 2

Color Notes

Post-Cal Notes

Nav Bar

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
Sat: L*a*b*	0.2502	0.1242	0.4923	0.4759	0.3126	20.6063	22.0180	22.4622	29.3735	30.0919	31.5653	64.9266	43.1930	48.0891	28.5292	67.0170	63.9346	60.1137	52.8808	58.8
Hue: L*a*b*	315.6287	289.4990	147.3961	315.3781	149.1690	55.3360	53.1688	270.8247	119.2592	296.2082	178.2783	62.2547	289.4889	19.5338	321.5307	111.7240	74.9314	298.8834	141.2782	27.0
ΔE 2000	0.3180	0.1611	0.6689	0.6846	0.7598	1.7452	1.1903	1.1564	2.1207	0.5598	1.6991	2.2850	1.3862	0.8346	2.6499	2.1956	1.8013	0.9233	0.9837	0.76
dE2000 LuminanceCompensated	0.3180	0.1322	0.6662	0.5999	0.4292	1.7466	0.7711	1.1479	2.0450	0.5626	0.7819	2.2155	1.1877	0.8118	2.7436	2.0850	1.2962	0.6117	0.8213	0.77
ΔE 1976:L*u*v*	0.3379	0.2385	0.6407	0.7586	0.8342	1.9493	2.0630	1.4829	3.8288	1.1425	3.0734	9.1955	3.8469	4.0288	6.7144	5.4757	5.9988	1.9665	2.4098	2.95
ΔE 1976:L*a*b*	0.2502	0.1930	0.5004	0.6526	0.8045	1.8607	1.4718	1.2095	3.6080	0.9782	2.6322	5.0447	3.1387	2.2634	5.3085	4.4789	6.2465	1.2599	2.4426	2.00
ΔE 1994 L*:±	0.0000	-0.1477	-0.0896	-0.4465	-0.7413	0.0625	-0.9957	0.1717	0.4346	-0.0270	-1.7740	-0.4038	-0.5613	0.4511	0.5089	0.7959	-1.2073	-1.1108	-0.4405	0.07
ΔE 1994 Sat:±	0.2502	0.1242	0.4923	0.4759	0.3126	0.1262	-0.7540	-0.2289	2.4737	0.8617	-1.6556	-3.7928	-2.8905	-2.1985	-4.5747	1.8377	-6.1235	0.0421	-1.9227	-1.6
ΔE 1994 Hue:±	0.0000	0.0000	0.0000	0.0000	0.0000	1.8554	0.7787	1.1752	-2.5903	0.4622	1.0200	3.3016	-1.0868	0.2931	2.6446	-4.0062	-0.2541	0.5930	1.4407	-1.06
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	0.00
Signed dE94 C LuminanceCompensated	0.2502	0.1242	0.4923	0.4759	0.3126	0.1007	-0.4696	-0.2902	2.2629	0.8732	-0.9636	-3.4188	-2.4063	-2.5544	-4.9658	1.2342	-5.1356	1.6191	-1.5707	-1.78
Signed dE94 H LuminanceCompensated	0.0000	0.0000	0.0000	0.0000	0.0000	1.8565	0.7738	1.1768	-2.6004	0.4621	1.0093	3.2926	-1.0811	0.2941	2.6602	-4.0248	-0.2523	0.5852	1.4360	-1.06

Calib

Prepare

Calibrate

Calib

Data1

Analyze

CAL

Notes Mgmt

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

3D Color Cube LUT

Simulated Meter LCD Direct View | Source | Direct Display Control

3D Color Cube LUT Calibration

DeltaE 2000

100 0 0
74.9 0 0
50.2 0 0
25.1 0 0
0 0 0

0 0.5 1 1.5 2 2.5 3

Delta E

Avg 0.51
Max 2.16 @ 100 50.2 25.1
dE 0.3 @ 74.9 0 0

Y in fL Target = tgt

0.35 0.34 0.33 0.32 0.31
0.62 0.63 0.64 0.65 0.66

Points 125

Summary
Delta E
Avg 0.51
Max 2.16
Delta L
Avg 0.28
Max 1.7
Delta H
Avg 0.54
Max 2.74
Delta C
Avg 0.81
Max 4.9

White 16.97
Triplet 180, 16, 16
Y tgt 1.803
1.77433
x tgt 0.64
0.63949
y tgt 0.33
0.32998

dE Avg 0.51
100 50.2 25.1 dE Max 2.16
74.9 0 0 dE 0.3

dL -0.29 | dH -0.14 | dC -0.65 | RGB Balance

-1.6 0.5 0.4

Red Green Blue Cyan Magenta Yellow White Ramp

Notes
Color Bars
Big Comparator

Luminance Level Points
5 Points per side, SMPTE (0-100), 25% steps

Inner Data Points | Display Slot | Selected LUT

0 0 0 | 25.1 0 0 | 50.2 0 0 | 74.9 0 0 | 100 0 0

Ramp 16 16 0 0 0 25.1 0 0 50.2 0 0 74.9 0 0 100 0 0

Nav Bar
CAL
3D Cb
Back
Next
3d+Dta
Prepare
Setup
PreCal Read
DyRng
Calibrate
Gray
Satur
Lumi
C Chk
3d+Dta
PostCal Read
Analyze
3d Cb
Final Check
3D Cb
Notes
Back
Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

3D Color Cube LUT

Simulated Meter LCD Direct View | Source | Direct Display Control

3D Color Cube LUT Calibration

DeltaE 2000

Delta E | Y in fL | Target = tgt

Points 517

Color Notes

Post-Calibration Notes

Calibration Description / Goals

Big

ummary
lta E
g 4.4
ax 8.33
lta L
g 4.17
ax 9.02
lta H
g 0.71
ax 2.15
lta C
g 2.65
ax 7.43

White 16.97

Triplet 255, 16, 16

Y tgt 4.41161
6.22912

x tgt 0.64
0.63848

y tgt 0.33
0.328

dE Avg 4.4

102.3 0 0 dE Max 8.33

109.1 0 0 dE 7.97

dL 9.02 | dH -2.15 | dC 12.48 | RGB Balance

45.9 | -6.5 | 12.3

Red | Green | Blue | Cyan | Magenta | Yellow | White | Ramp

Notes | Color Bars

Big Comparator

Luminance Level Points

61 Points per side, SMPTE (0-109)

Nav Bar | CAL | 3D Cb | Back | Next | 3d+Dta | Prepare | Setup | PreCal Read | DyRng | Calibrate | Gray | Satur | Lumi | C Chk | 3d+Dta | PostCal Read | Analyze | 3d Cb

Ramp | 16 | 16

Notes | Back | Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Datagrid

Simulated Meter LCD Direct View | Source | Direct Display Control

3D Color Cube LUT Calibration Data

Color Notes

Post-Calibration Notes

109.1 0 0

White
Red
Green
Blue
Cyan
Magenta
Yellow

	0 0 0	1.8 0 0	3.7 0 0	5.5 0 0	7.3 0 0	9.1 0 0	11 0 0	12.8 0 0	14.6 0 0	16.4 0 0	18.3 0 0	20.1 0
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
RedIndex	16.00000	20.00000	24.00000	28.00000	32.00000	36.00000	40.00000	44.00000	48.00000	52.00000	56.00000	60.00
GreenIndex	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00
BlueIndex	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00000	16.00
X	0.09560	0.12659	0.16844	0.22218	0.28879	0.36190	0.46407	0.57437	0.68705	0.82750	1.00483	1.180
Y cd/m²	0.10059	0.11657	0.13814	0.16586	0.20020	0.23689	0.29058	0.34745	0.40455	0.47697	0.56941	0.661
Z	0.10953	0.11099	0.11295	0.11547	0.11859	0.11996	0.12680	0.13197	0.13520	0.14178	0.15215	0.151
Xn 0-1	0.00164	0.00218	0.00290	0.00382	0.00497	0.00622	0.00798	0.00988	0.01182	0.01423	0.01728	0.020
Yn 0-1	0.00173	0.00200	0.00238	0.00285	0.00344	0.00407	0.00500	0.00598	0.00696	0.00820	0.00979	0.011
Zn 0-1	0.00188	0.00191	0.00194	0.00199	0.00204	0.00206	0.00218	0.00227	0.00232	0.00244	0.00262	0.002
Stimulus Percent	0.00000	0.01826	0.03653	0.05479	0.07306	0.09132	0.10959	0.12785	0.14612	0.16438	0.18265	0.200
RED Stim%:0-1	0.00000	0.01826	0.03653	0.05479	0.07306	0.09132	0.10959	0.12785	0.14612	0.16438	0.18265	0.200
GRN Stim%:0-1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.000
BLU Stim%:0-1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.000
Measured Red Stimulus	0.00000	0.01989	0.03996	0.06016	0.08048	0.09946	0.12144	0.14205	0.16078	0.18137	0.20433	0.224
Measured Green Stimulus	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00062	0.00000	0.00000	-0.00062	-0.00062	0.00000	0.000
Measured Blue Stimulus	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00063	0.00000	0.00000	-0.00063	-0.00063	0.00000	-0.00
Stimulus	0.00000	2.00000	3.70000	5.50000	7.30000	9.00000	11.00000	13.00000	14.60000	16.40000	18.30000	20.00
Target X cd/m²	0.09561	0.22315	0.25997	0.30620	0.36243	0.42918	0.50695	0.59622	0.69743	0.81098	0.93728	1.076
Target Y cd/m²	0.10059	0.11506	0.13405	0.15789	0.18688	0.22129	0.26140	0.30743	0.35961	0.41816	0.48329	0.555
Target Z cd/m²	0.10954	0.01046	0.01219	0.01435	0.01699	0.02012	0.02376	0.02795	0.03269	0.03801	0.04394	0.050
Target Xn 0-1	0.00164	0.00384	0.00447	0.00527	0.00623	0.00738	0.00872	0.01025	0.01199	0.01395	0.01612	0.018
Target Yn 0-1	0.00173	0.00198	0.00231	0.00272	0.00321	0.00381	0.00450	0.00529	0.00618	0.00719	0.00831	0.009
Target Zn 0-1	0.00188	0.00018	0.00021	0.00025	0.00029	0.00035	0.00041	0.00048	0.00056	0.00065	0.00076	0.000
TargetGamut:Nrml Y	0.00173	0.00925	0.01077	0.01269	0.01502	0.01778	0.02100	0.02470	0.02890	0.03360	0.03883	0.044
TargetRED:Lin0-1	0.00173	0.00930	0.01084	0.01277	0.01511	0.01790	0.02114	0.02486	0.02908	0.03382	0.03908	0.044
TargetGRN:Lin0-1	0.00173	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.000
TargetBLU:Lin0-1	0.00173	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.000
TargetGamut:Nrml MaxY	1.00000	0.21402	0.21402	0.21402	0.21402	0.21402	0.21402	0.21402	0.21402	0.21402	0.21402	0.214
Target x:CIE31	0.31271	0.64000	0.64000	0.64000	0.64000	0.64000	0.64000	0.64000	0.64000	0.64000	0.64000	0.640
Target y:CIE31	0.32901	0.33000	0.33000	0.33000	0.33000	0.33000	0.33000	0.33000	0.33000	0.33000	0.33000	0.330

Ramp | 16 | 16

36.5 0 0 | 38.4 0 0 | 40.2 0 0 | 42 0 0 | 43.8 0 0 | 45.7 0 0 | 47.5 0 0 | 49.3 0 0 | 51.1 0 0 | 53 0 0 | 54.8 0 0 | 56.6 0 0 | 58.4 0 0 | 60.3 0 0 | 62.1 0 0 | 63.9 0 0 | 65.8 0 0 | 67.6 0 0 | 69.4 0 0 | 71.2 0 0

Nav Bar
CAL
Calib
Prepare
Calibrate
Calib
Analyze
3d Cb
CAL
Detail
Notes Mgmt

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Post-Cal Readings

Simulated Meter LCD Direct View | Source | Direct Display Control

Post-Calibration Readings

Gamma Breakout Tot 2.41 Y Min 0 Y Max 17.07

2.6 2.5 2.4 2.3

5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

1 Grayscale

Detail Charts DeltaE 0.07 Avg 0.25 Max 0.4 5

3 2 1 0

5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

4 Color Checker

Detail Charts

White

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

0 0.5 1 1.5 2 2.5 3

DeltaE 0.28 Avg 1.21 Max 2.66

2 Saturation Sweeps

Detail Charts

0

DeltaE 0 Max 2.07 Avg 0.87

3 2.5 2 1.5 1 0.5 0

0 100 25% 50% 75% 100%

3 Gamut Luminance

Detail Charts

25

DeltaE 0.25 Max 1.56 Avg 0.56

3 2.5 2 1.5 1 0.5 0

25 50 75 100

Populate Gamut for HT report

1 Grayscale
20 Point 5% step 5-100%

2 Saturation
25% Sweeps

3 Luminance
4 Point 25% step 25-100%

4 Color Checker

Display Slot

Mode ● ISF Day

Post-Cal Readings

Contrast
Brightness
Backlight

TV Gamma
Color
Tint

Red Green Blue
Gain
Cut

Post-Cal Notes
Big

Use [···] below to read ALL series or select a series above

5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

PreCal Read Notes

Back Next

Nav Bar
CAL
PstCal
Read
Back
Next
PreRead
Prepare
Setup
PreRead
DyRng
Calibrate
Gray
Satur
Lumi
C Chk
3d Cb
PreRead
Analyze
Gray
Satur
Lumi
C Chk
3d Cb
Final Check
PstCal

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

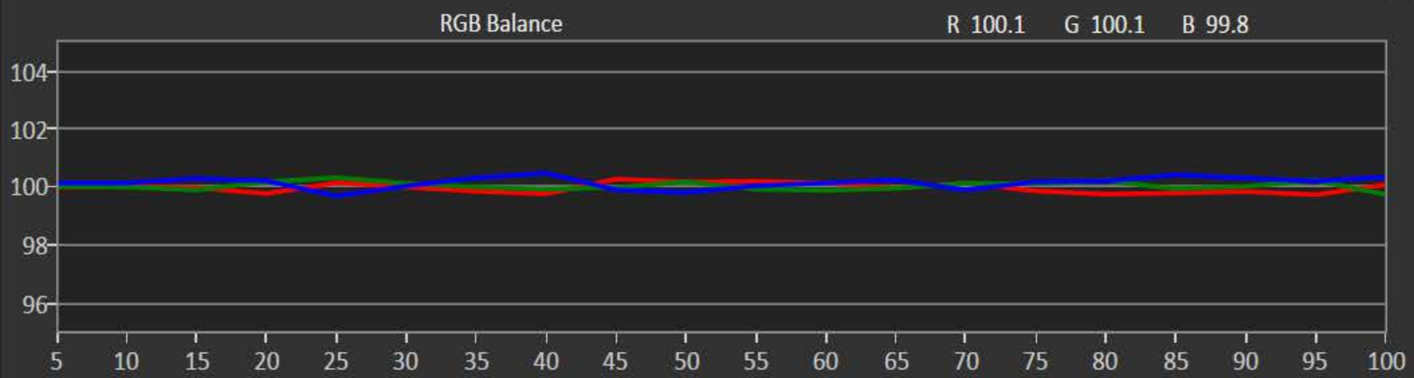
Post-Calibration

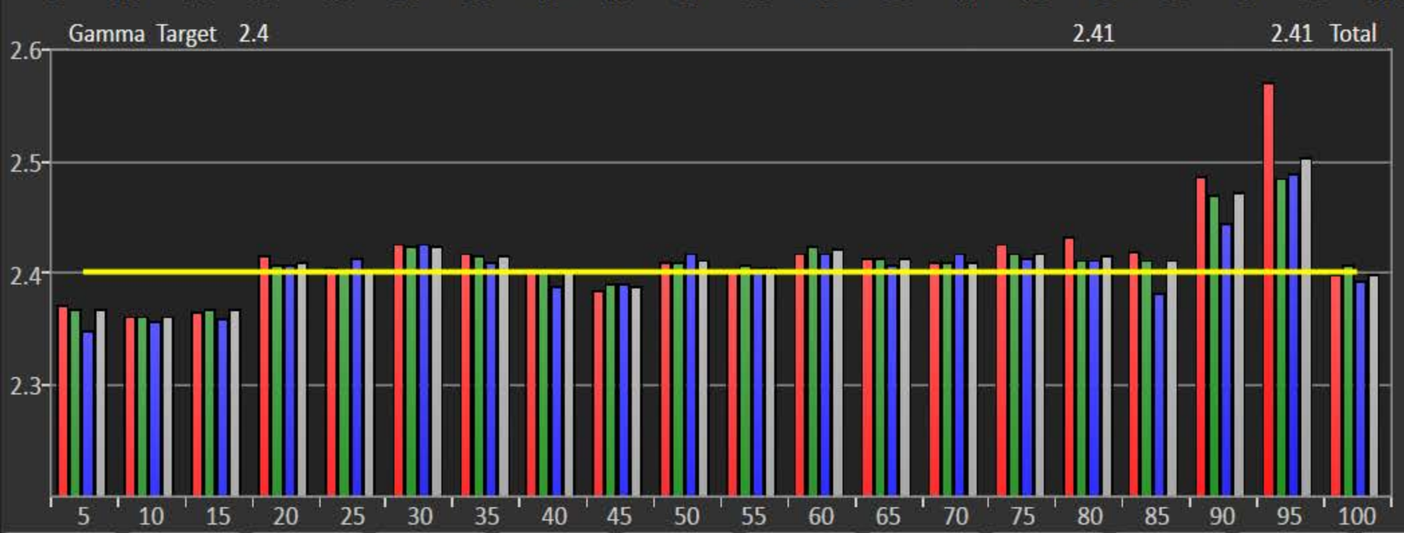
Simulated Meter LCD Direct View | Source | Direct Display Control

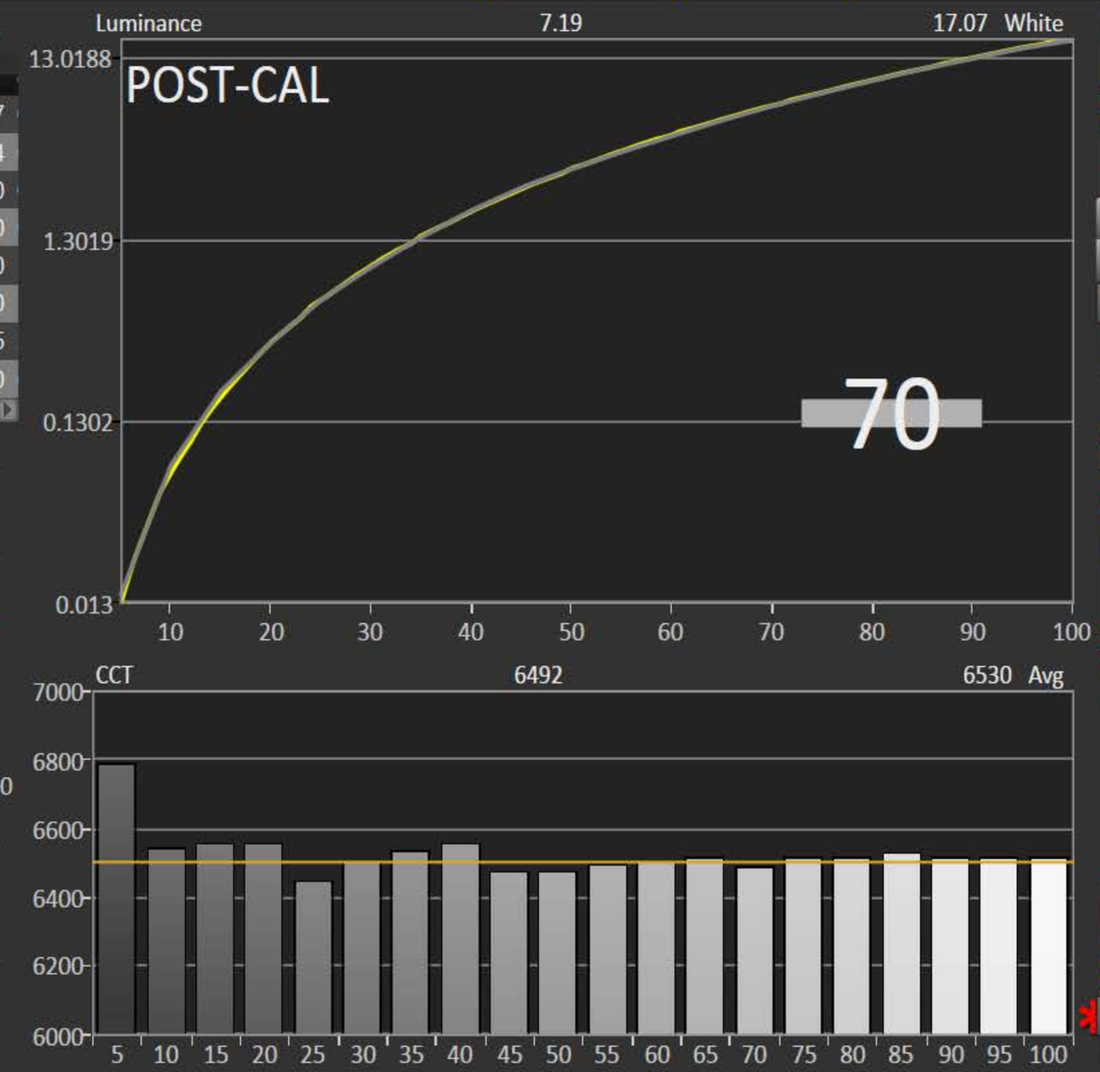
Post-Cal Grayscale Detail

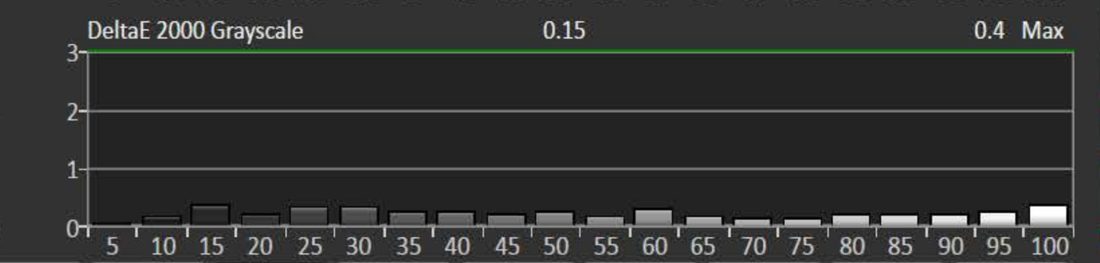
Notes

	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
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
x: CIE31	0.3085	0.3121	0.3119	0.3118	0.3135	0.3126	0.3121	0.3119	0.3131	0.3131	0.3129	0.3127	0.3125	0.3129	0.3125	0.3124
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
y: CIE31	0.3234	0.3277	0.3274	0.3289	0.3308	0.3292	0.3283	0.3279	0.3292	0.3296	0.3288	0.3287	0.3286	0.3293	0.3289	0.3290
Target Y	0.0130	0.0687	0.1818	0.3627	0.6196	0.9597	1.3893	1.9142	2.5395	3.2702	4.0296	4.9737	6.0356	7.2192	8.5281	9.9660
Y	0.0144	0.0750	0.1935	0.3570	0.6158	0.9315	1.3655	1.9131	2.5620	3.2449	4.0157	4.9144	5.9986	7.1921	8.4809	9.9290
Gamma Point: Flat	2.3668	2.3618	2.3672	2.4099	2.4044	2.4249	2.4166	2.4006	2.3889	2.4113	2.4058	2.4233	2.4142	2.4105	2.4192	2.4166
ΔE 2000	0.0749	0.2143	0.4015	0.2217	0.3665	0.3443	0.2856	0.2832	0.2189	0.2584	0.1802	0.3351	0.2035	0.1479	0.1681	0.2390









5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Nav Bar: ANL | PstCal | Gray | Back | Next | PreCal | D-Grid | Prepare | Setup | PreCal Read | Calibrate | Gray | PostCal Read | Analyze | PreCal | Satur | Lumi | C Chk | 3d Cb | Final Check | PstCal | Gray | D-Grid

Notes Mgmt | Pre-Cal | Back | Next

CalMAN 5 CalMAN Enthusiast for Home Video

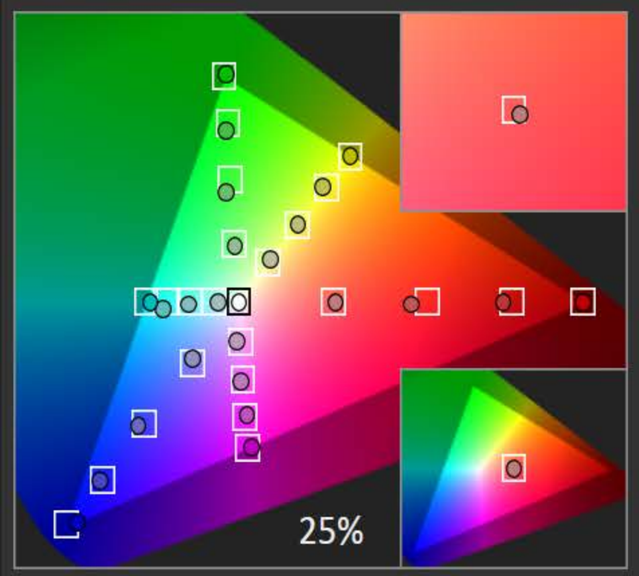
CalMAN 5

Post-Calibration

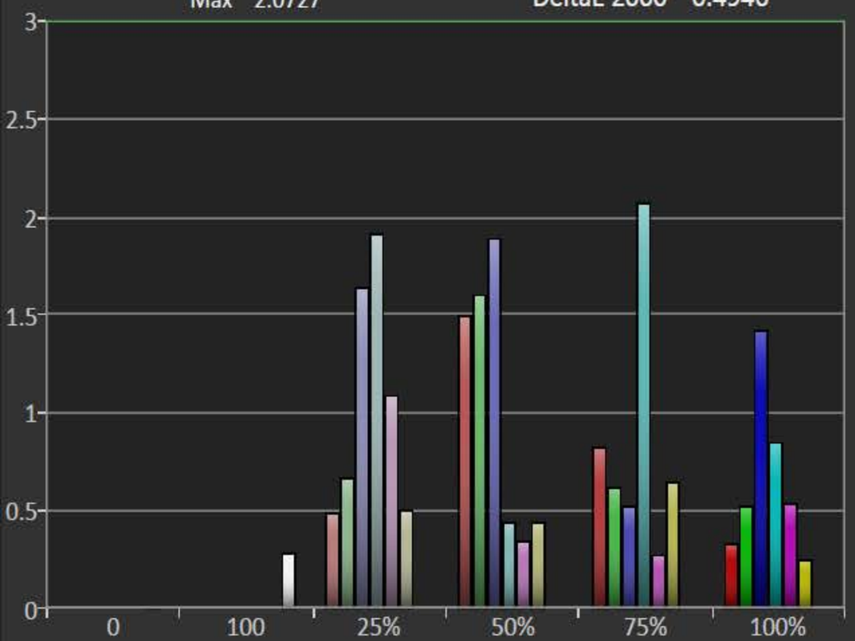
Simulated Meter LCD Direct View | Source | Direct Display Control

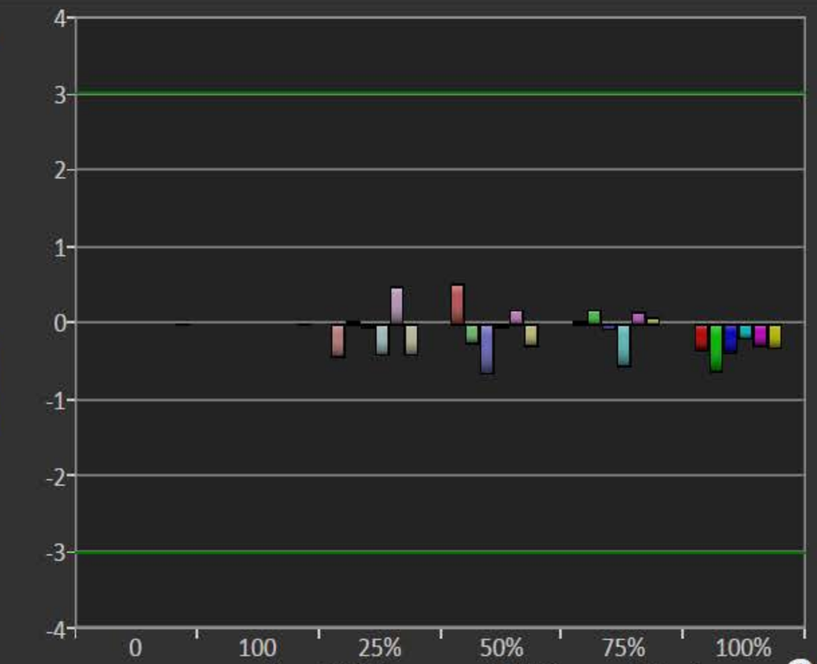
Post-Cal Saturation Sweeps Detail

Notes



Max 2.0727 DeltaE 2000 0.4946



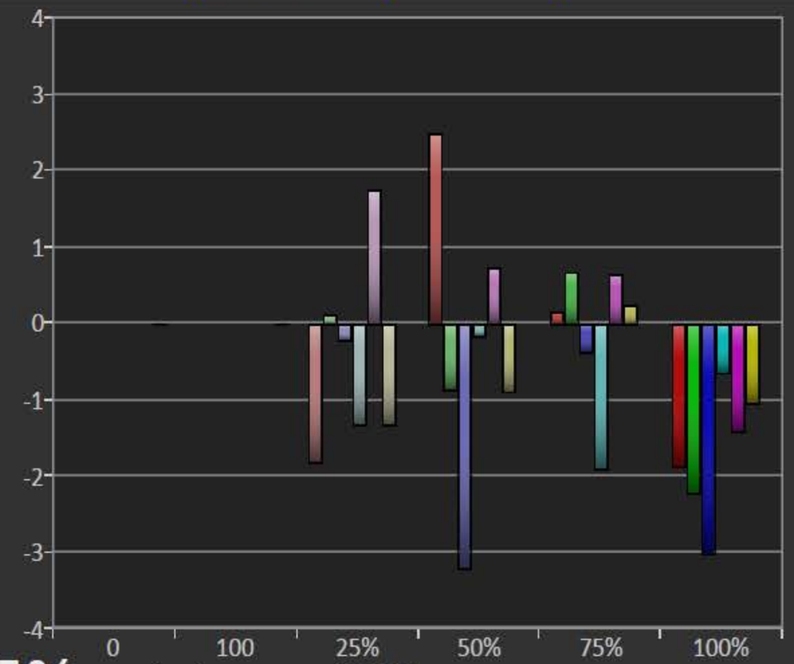


PostCal

Max 0.6657 -0.4429 Delta L

Max 2.8796 -0.2377 Delta H

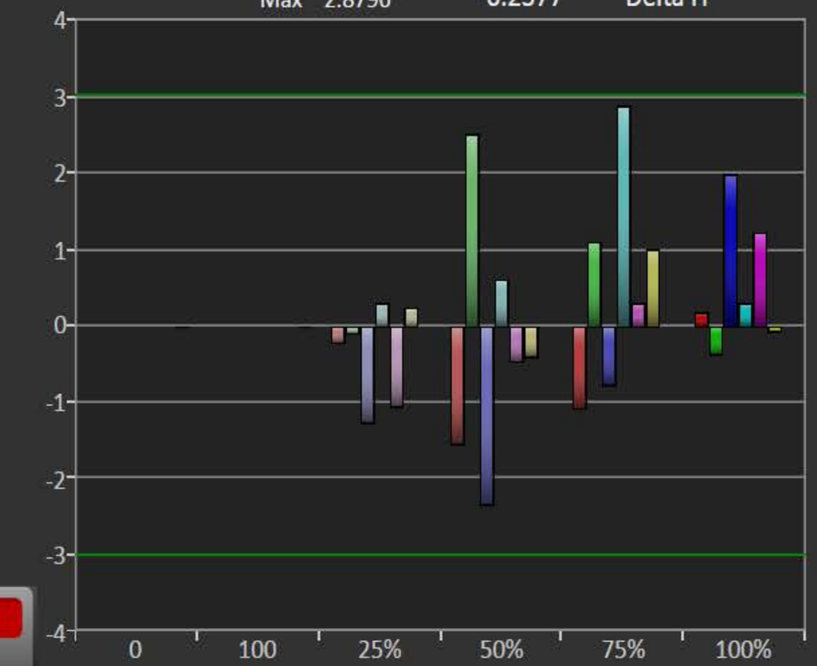
25%



Luminance -1.8137

Delta C 0.6852 4.3008 Max

PostCal



25% 50% 75% 100%

Nav Bar ANL PstCal Satur Back Next PreCal D-Grid Prepare Setup PreCal Read Calibrate Satur PostCal Read Analyze Gray PreCal Lumi C Chk 3d Cb Final Check PstCal Satur D-Grid

Notes Mgmt Pre-Cal

Back Next

CalMAN 5 CalMAN Enthusiast for Home Video

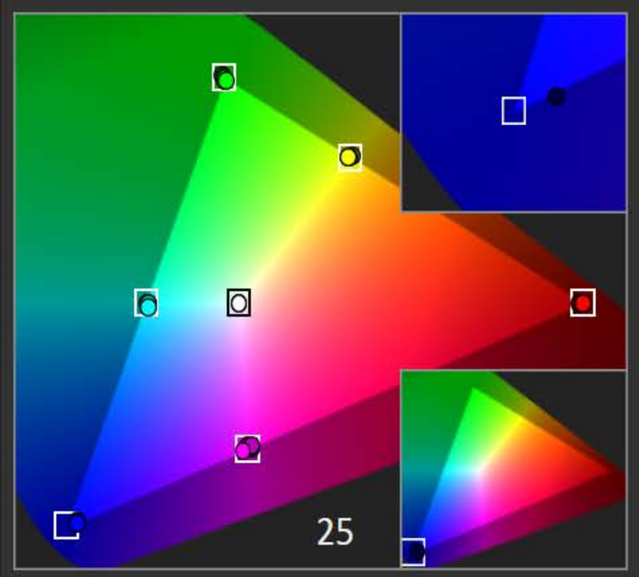
CalMAN 5

Post-Calibration

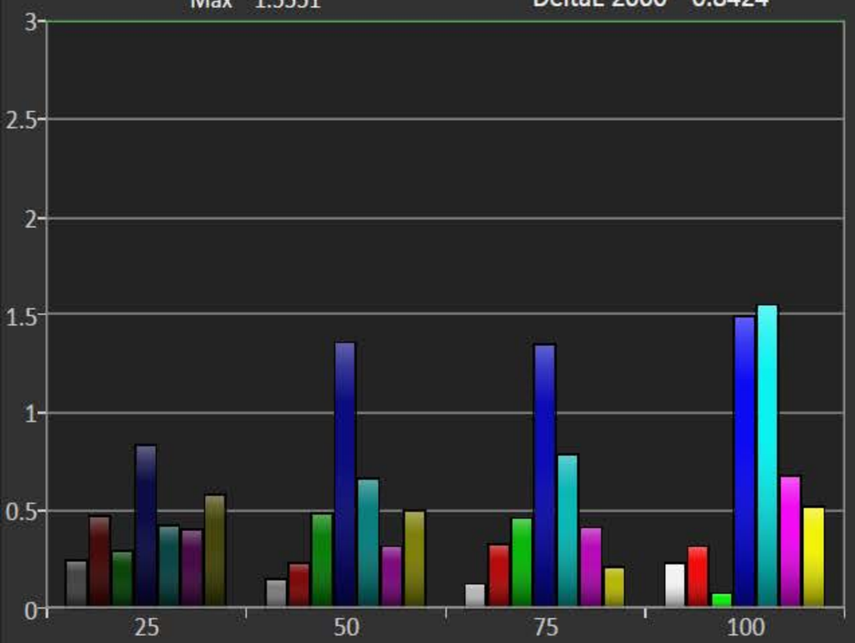
Simulated Meter LCD Direct View | Source | Direct Display Control

Post-Cal Gamut Luminance Detail

Notes



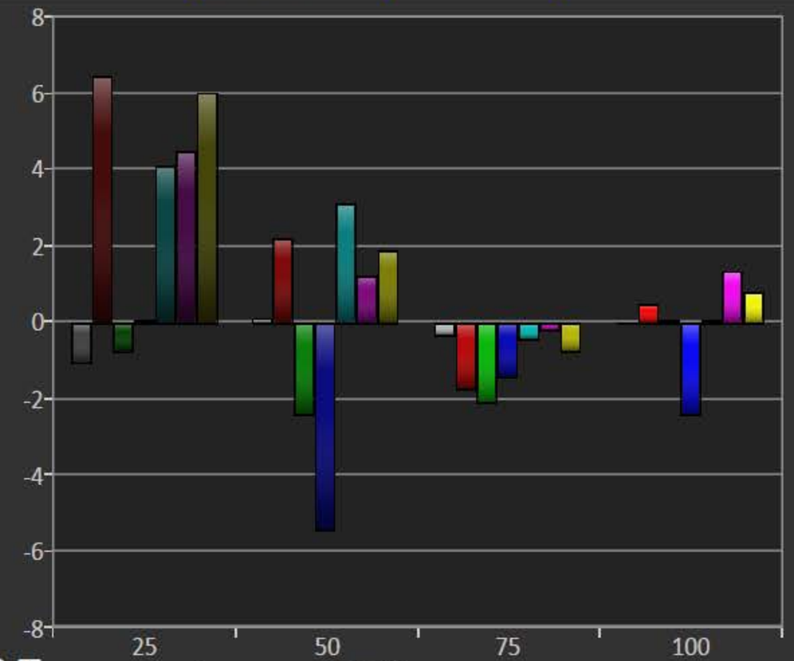
Max 1.5551 DeltaE 2000 0.8424



PostCal Max 0.7355 0.0013 Delta L

Max 2.6937 0.7494 Delta H

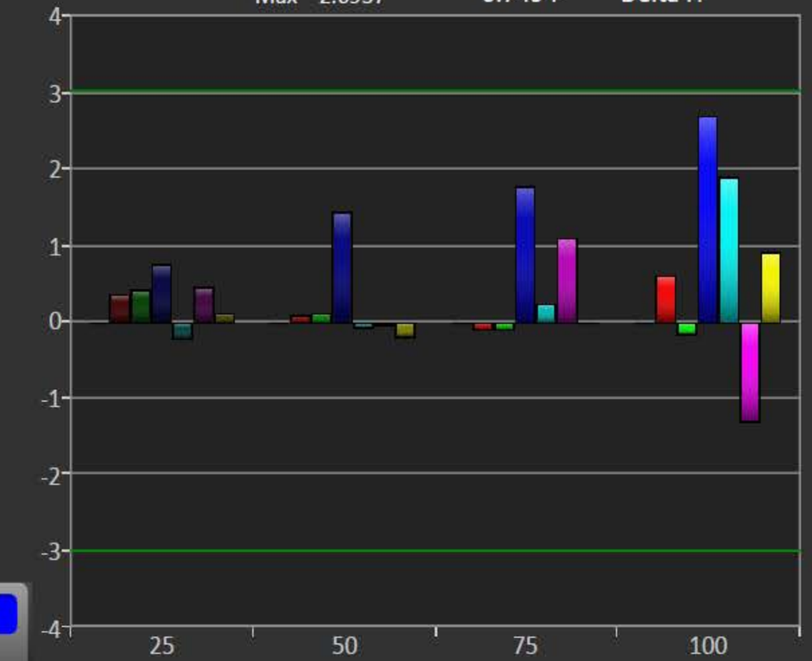
25

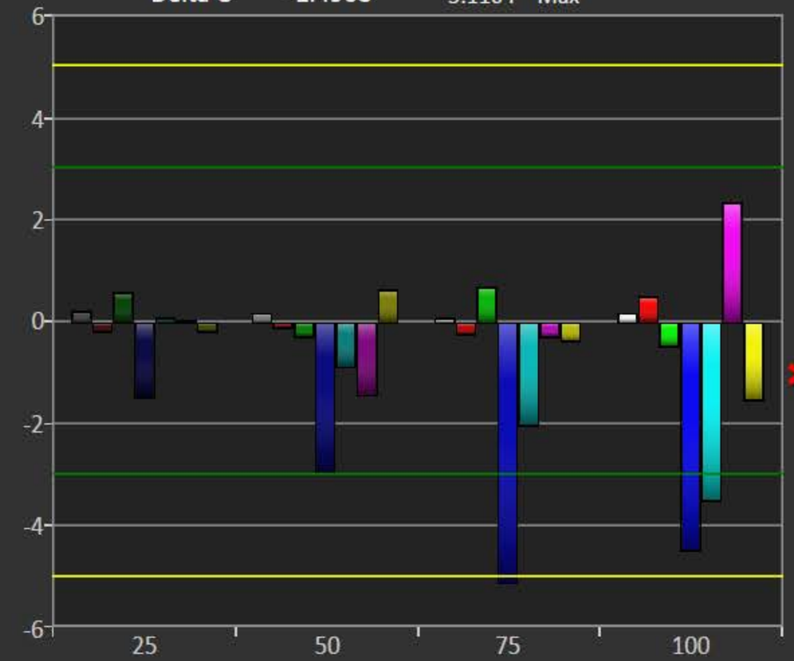


Luminance 0.0547

Delta C -1.4908 5.1104 Max

PostCal





Nav Bar
ANL
PstCal
Lumi
Back
Next
PreCal
D-Grid
Prepare
Setup
PreCal Read
Calibrate
Lumi
PostCal Read
Analyze
Gray
Satur
PreCal
C Chk
3d Cb
Final Check
PstCal
Lumi
D-Grid

Notes Mgmt | Pre-Cal

Back | Next

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Post-Calibration

Simulated Meter LCD Direct View | Source | Direct Display Control

Post-Cal Color Checker Detail

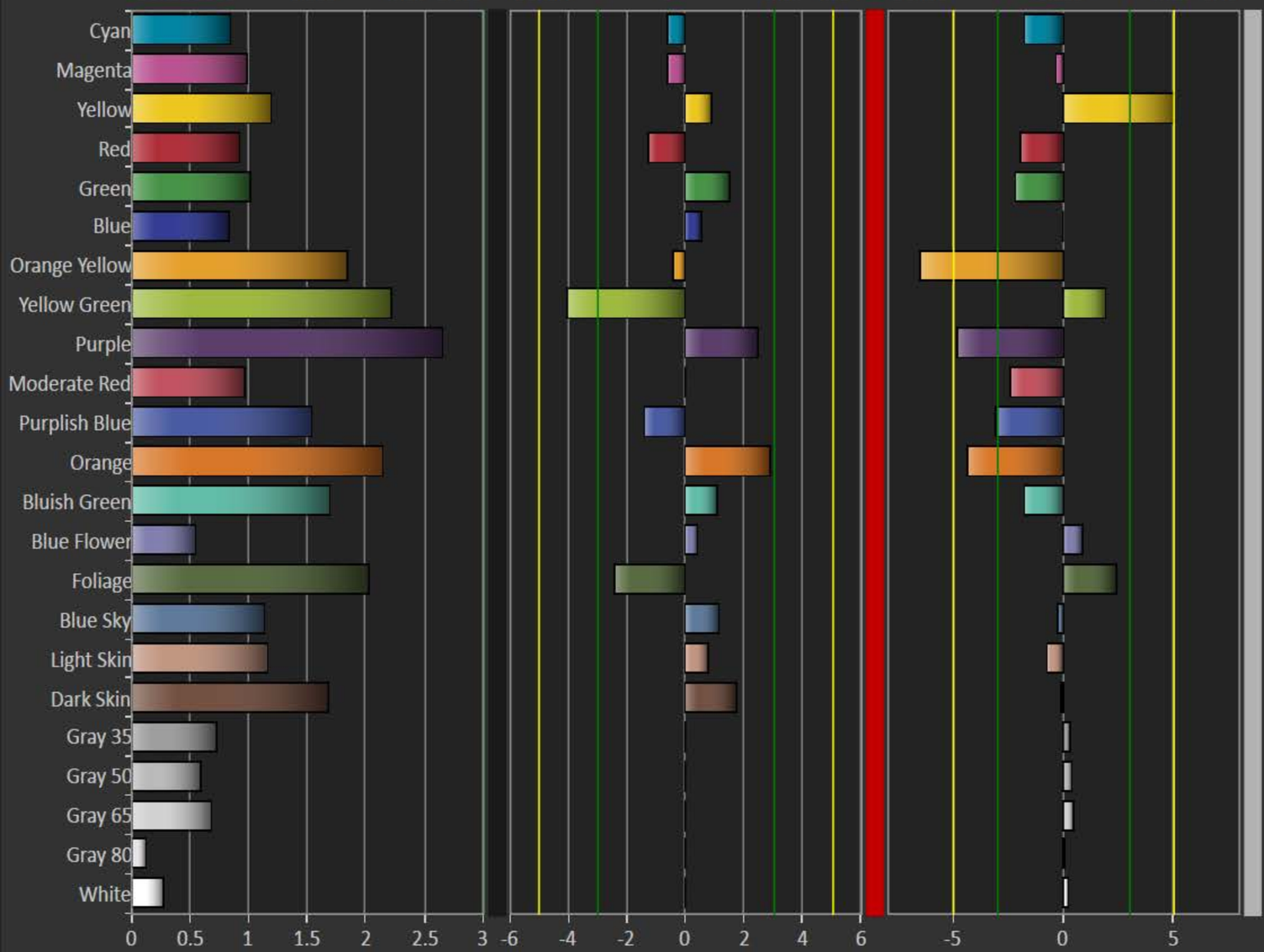
PostCal - White

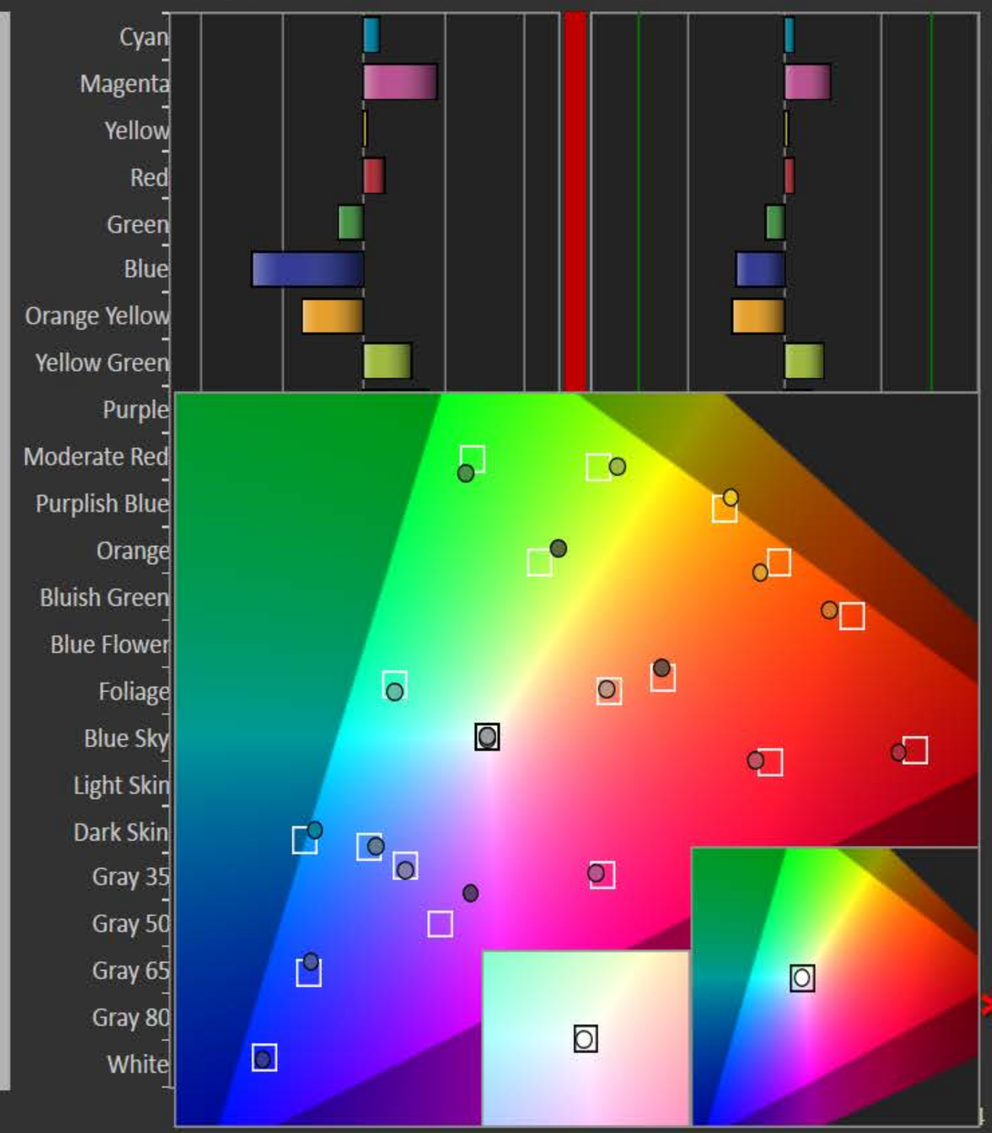
DeltaE 2000 0.283 Max 2.659 | DeltaH 0 Max 4.034 | DeltaC 0.239 Max 6.49

Color Notes | Big | Post-Cal Notes

CIE Chart

Gamut Luminance 0 | DeltaL 0 Max 1.715





Nav Bar | ANL | PstCal | CChkr | Back | Next | PreCal | D-Grid | Prepare | Setup | PreCal Read | Calibrate | C Chk | PostCal Read | Analyze | Gray | Satur | Lumi | PreCal | 3d Cb | Final Check | PstC | CChk | D-Grid

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

Notes Mgmt | Pre-Cal

Back | Next

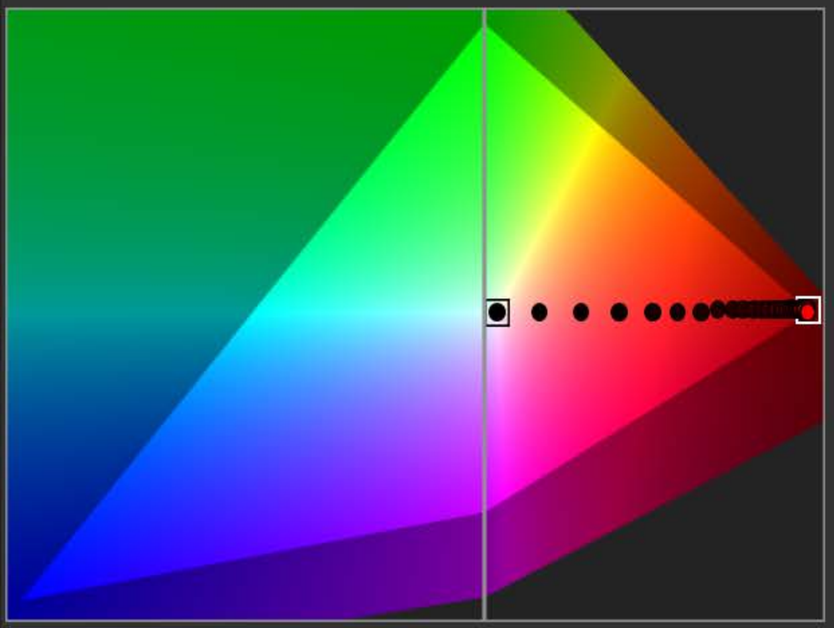
CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

DeltaE DeltaL Lminance | DeltaE DeltaH DeltaC

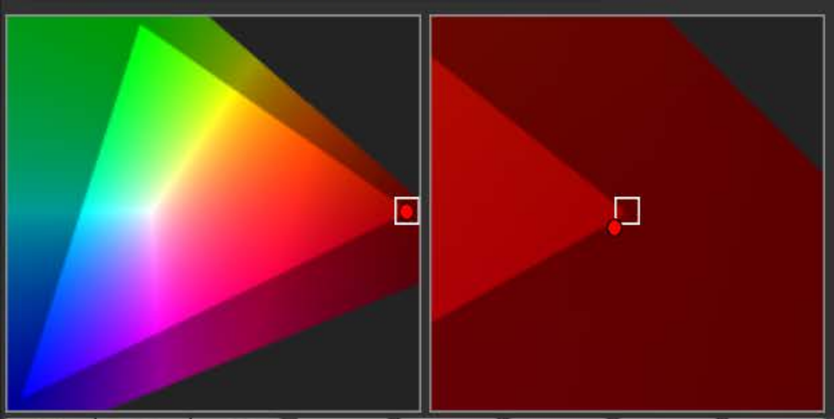
Simulated Meter LCD Direct View | Source | Direct Display Control

3D Color Cube LUT Calibration Detail 1

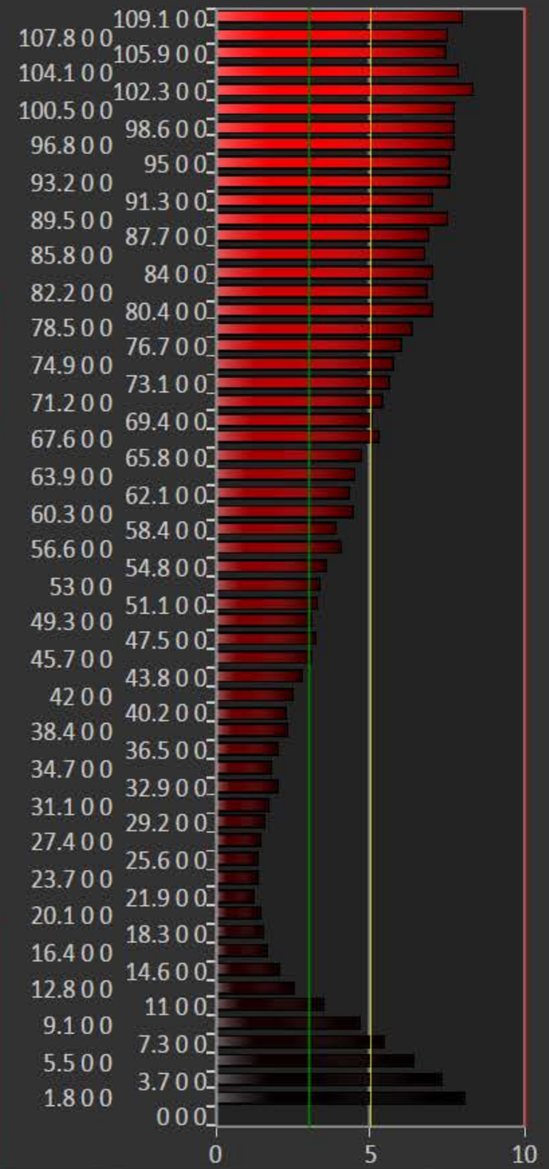


Red | Green | Blue | White

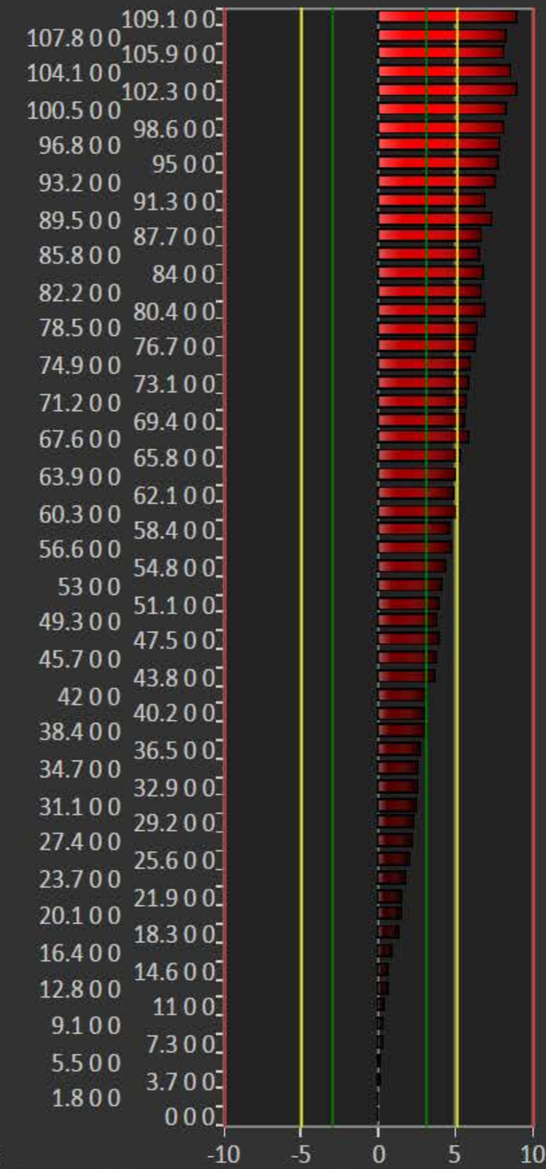
Cyan | Magenta | Yellow



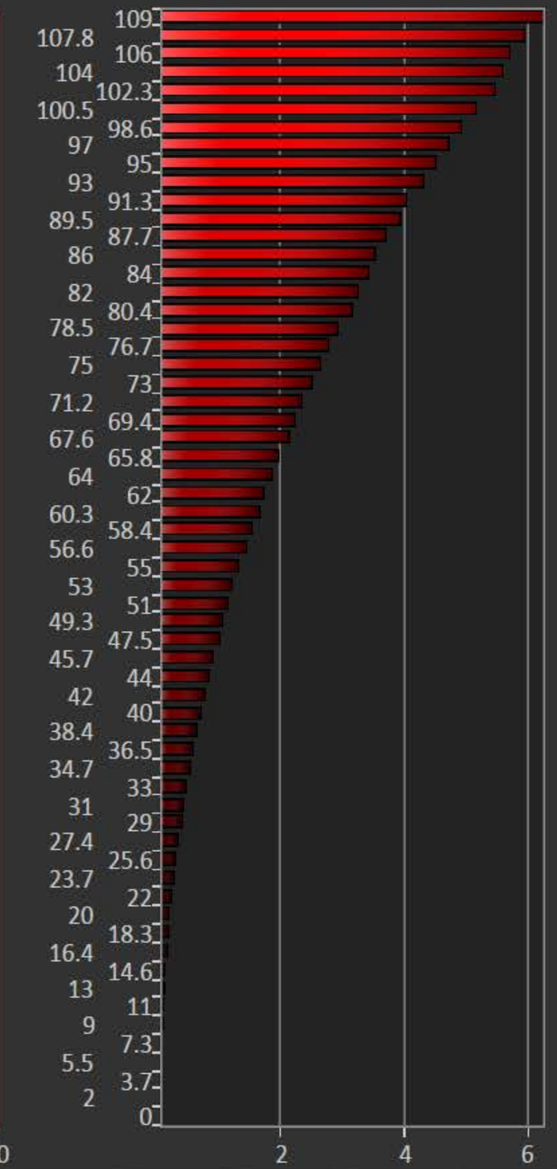
ΔE 2000 7.97 Avg 4.4 Max 8.33



Delta L 9.02 Avg 3.87 Max 9.02



Luminance 6.22912



Nav Bar

ANL

3D Cb

Detail

Back

Next

CbCal

Prepare

Setup

PreCal Read

Calibrate

3d Cb

PostCal Read

Analyze

Gray

Satur

Lumi

C Chk

CbCal

Detl 2

Final Check

CAL

Data

Ramp | 16 | 16

36.5 0 0 | 38.4 0 0 | 40.2 0 0 | 42 0 0 | 43.8 0 0 | 45.7 0 0 | 47.5 0 0 | 49.3 0 0 | 51.1 0 0 | 53 0 0 | 54.8 0 0 | 56.6 0 0 | 58.4 0 0 | 60.3 0 0 | 62.1 0 0 | 63.9 0 0 | 65.8 0 0 | 67.6 0 0 | 69.4 0 0 | 71.2 0 0

Back | Next

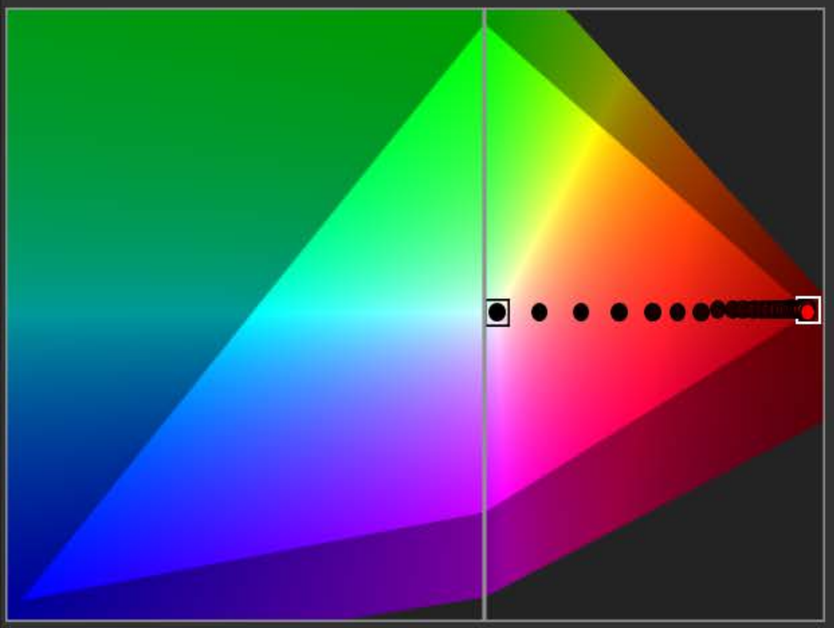
CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

DeltaE DeltaL Luminance | DeltaE DeltaH DeltaC

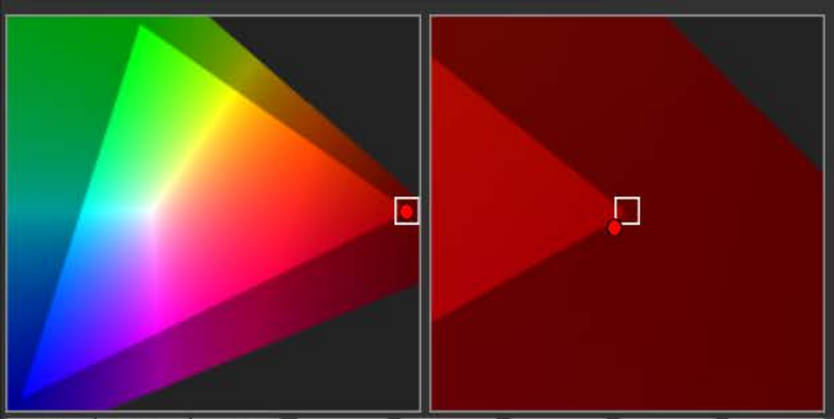
Simulated Meter LCD Direct View | Source | Direct Display Control

3D Color Cube LUT Calibration Detail 2

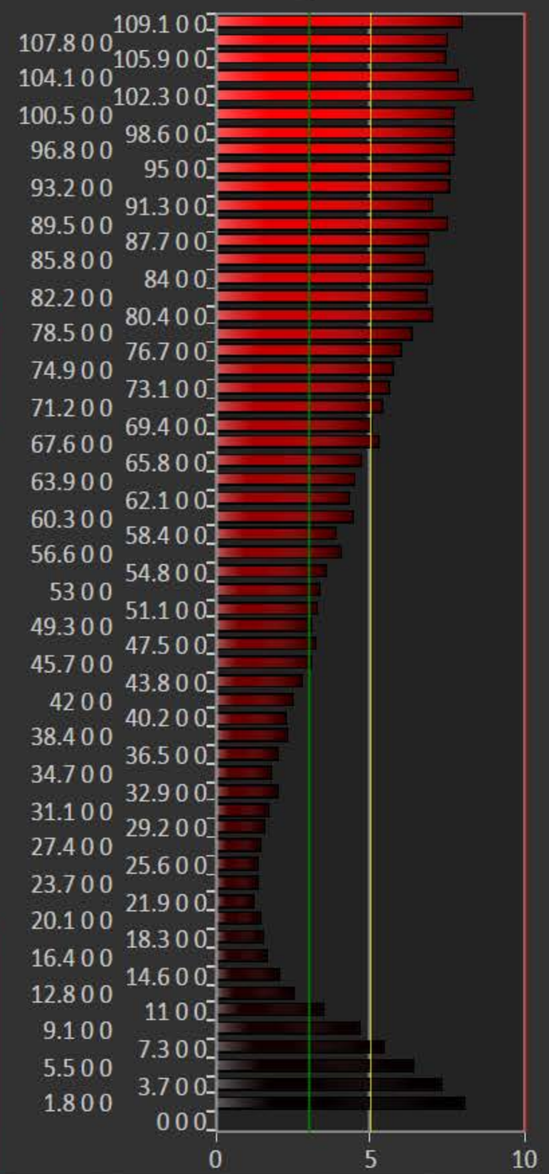


Red | Green | Blue | White

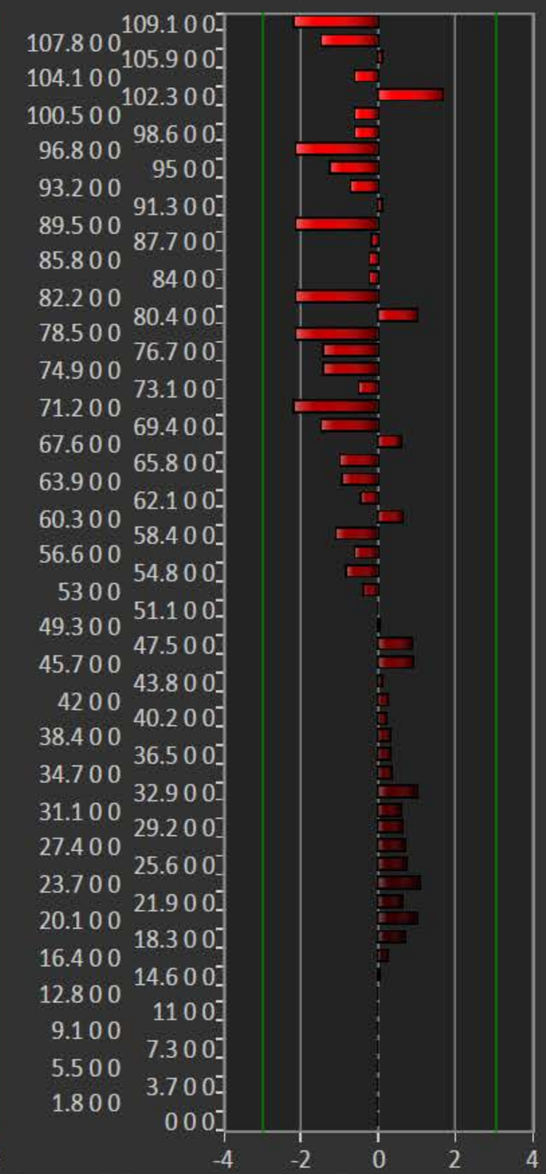
Cyan | Magenta | Yellow



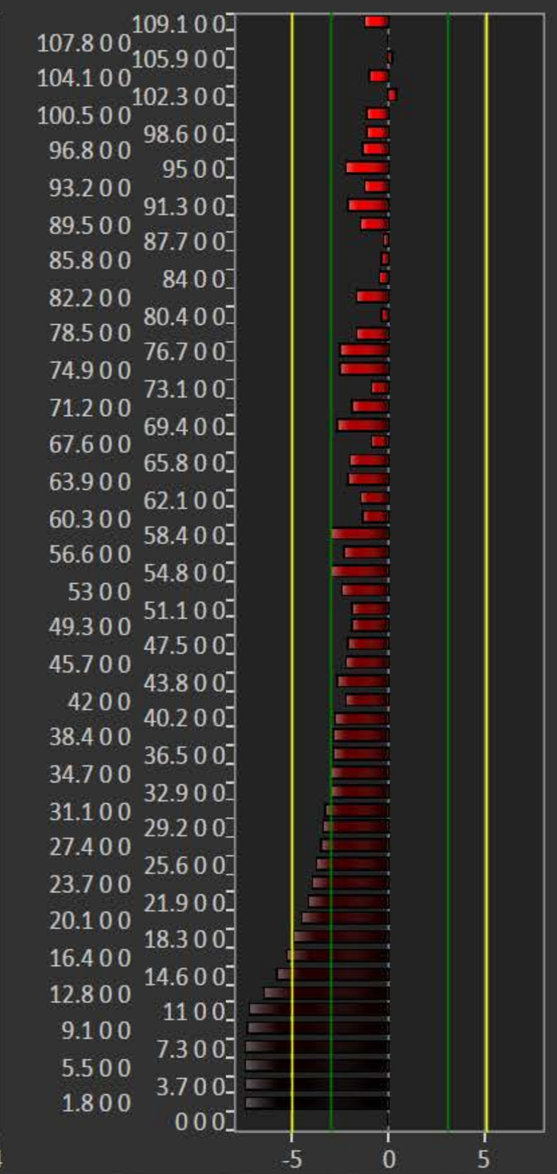
ΔE 2000 7.97 Avg 4.4 Max 8.33



Delta H -2.28 Avg -0.61 Max 2.28



Delta C -1.15 Avg 3.62 7.43 Max



Nav Bar

ANL

Cal 3D Cb

Back | Next | CbCal

Prepare | Setup | PreCal Read | Calibrate | 3d Cb | PostCal Read | Analyze | Gray | Satur | Lumi | C Chk | CbCal | Detl 1 | Final Check | CAL | Data

Ramp | 16 | 16

36.5 0 0 | 38.4 0 0 | 40.2 0 0 | 42 0 0 | 43.8 0 0 | 45.7 0 0 | 47.5 0 0 | 49.3 0 0 | 51.1 0 0 | 53 0 0 | 54.8 0 0 | 56.6 0 0 | 58.4 0 0 | 60.3 0 0 | 62.1 0 0 | 63.9 0 0 | 65.8 0 0 | 67.6 0 0 | 69.4 0 0 | 71.2 0 0

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CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Final Check

Simulated Meter LCD Direct View | Source | Direct Display Control

Final Check

Mode ISF Day

Contrast Verification

Data Points: select Clipping or 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: 12 Point 10% step 0-109%

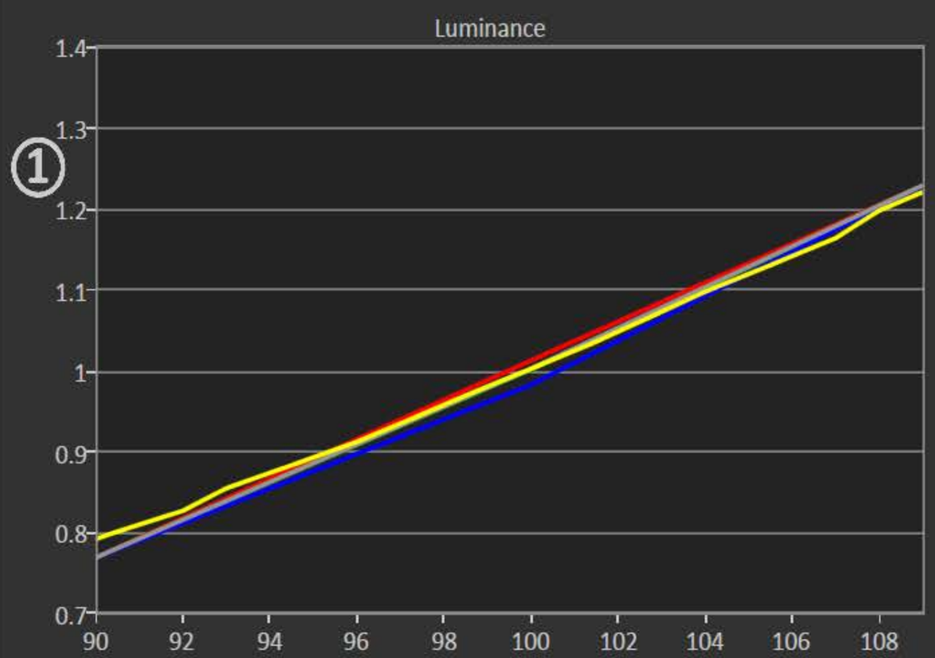
② Check / adjust the gamma level across the full grayscale. Use the Backlight, Brightness, Contrast and Gamma controls to make this adjustment.

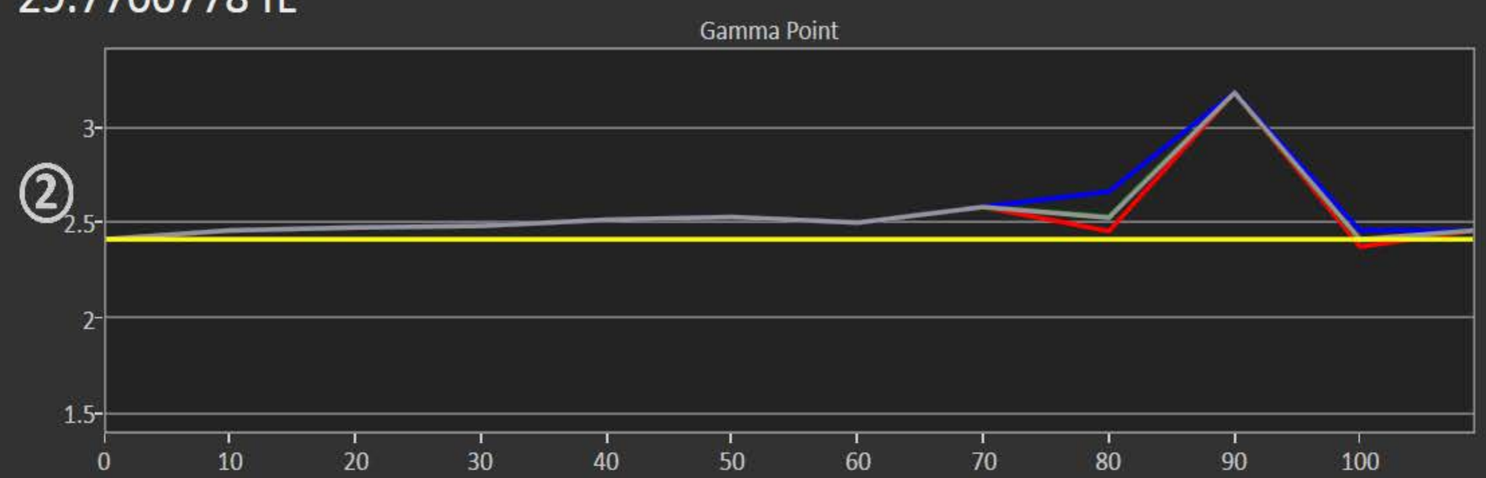
Post-Calibration Summary

Grayscale dE	Avg	0.25	Saturation dE	Avg	0.87
	Max	0.4		Max	2.07
Luminance dE	Avg	0.56	Color Checker dE	Avg	1.21
	Max	1.56		Max	2.66
3D Color Cube LUT (3D LUT values come from Calibration layout)	Avg	4.4	Gamma Total		2.41
	Max	8.33	CCT Average		6530
White	17.07	fL			
Black	0		Contrast Ratio		0

109

29.7700778 fL





Post-Calibration Notes

Big

Contrast		TV Gamma			Red	Green	Blue
Brightness		Color		Gain			
Backlight		Tint		Cut			

Notes Mgmt

Nav Bar: ANL, Final Check, Back, Prepare, Setup, PreCal Read, DyRng, Calibrate, Gray, PostCal Read, Analyze, Gray, Satur, Lumi, C Chk, 3d Cb, Final Check, Final

0 10 20 30 40 50 60 70 80 90 100 109

Back Save

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Notes Management

Simulated Meter LCD Direct View | Source | Direct Display Control

Setup Notes

Calibration Notes

Pre-Calibration Notes

Calibration Description / Goals

Color Notes

Post-Calibration Notes

Nav Bar

REF

Notes

Intro

Prepare

Setup

PreCal Read

DyRng

Calibrate

Gray

Satur

Lumi

C Chk

3d Cb

PostCal Read

Analyze

Gray

Satur

Lumi

C Chk

3d Cb

Final Check

PostCal Read | Session Setup

Home | Final Check

CalMAN 5 CalMAN Enthusiast for Home Video

CalMAN 5

Grayscale Datagrids

Simulated Meter LCD Direct View | Source | Direct Display Control

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,
RedIndex	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
GreenIndex	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
BlueIndex	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	0.3467	0.8258	1.5692	2.5524	3.8631	5.6866	7.7897	9.8346	13.0645	16.4162	19.8698	24.1279	28.5387	34.6653	39.7887	46.1490	52.7437	59.7754
Y cd/m²	0.3648	0.8744	1.6510	2.6855	4.0907	5.9811	8.1933	10.4102	13.6582	17.1623	20.7729	25.2315	30.2198	36.4726	41.8630	48.5549	55.8506	62.4920
Z	0.3972	0.9575	1.7978	2.9243	4.4793	6.4013	8.7689	11.2044	14.7896	18.5840	22.4937	27.7973	33.0906	39.7156	45.5854	52.8722	61.1562	67.6687
Xn 0-1	0.0043	0.0101	0.0192	0.0313	0.0474	0.0697	0.0955	0.1206	0.1602	0.2014	0.2437	0.2959	0.3500	0.4252	0.4880	0.5660	0.6469	0.7332
Yn 0-1	0.0045	0.0107	0.0202	0.0329	0.0502	0.0734	0.1005	0.1277	0.1675	0.2105	0.2548	0.3095	0.3707	0.4473	0.5135	0.5955	0.6850	0.7665
Zn 0-1	0.0049	0.0117	0.0221	0.0359	0.0549	0.0785	0.1076	0.1374	0.1814	0.2279	0.2759	0.3409	0.4059	0.4871	0.5591	0.6485	0.7501	0.8300
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

	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,
RedIndex	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
GreenIndex	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
BlueIndex	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	0.0470	0.2448	0.6316	1.1595	1.9995	3.0307	4.4471	6.2338	8.3504	10.5603	13.0909	16.0218	19.5435	23.4139	27.6047	32.3000	37.5045	42.7889
Y cd/m²	0.0493	0.2570	0.6629	1.2231	2.1099	3.1914	4.6784	6.5549	8.7780	11.1178	13.7587	16.8381	20.5529	24.6418	29.0577	34.0192	39.4506	45.0215
Z	0.0561	0.2825	0.7303	1.3365	2.2694	3.4717	5.1234	7.1996	9.5393	12.0533	14.9911	18.3730	22.4434	26.7765	31.6785	37.0770	43.1336	49.1474
Xn 0-1	0.0008	0.0042	0.0108	0.0198	0.0342	0.0518	0.0760	0.1066	0.1428	0.1805	0.2238	0.2739	0.3341	0.4003	0.4719	0.5522	0.6412	0.7315
Yn 0-1	0.0008	0.0044	0.0113	0.0209	0.0361	0.0546	0.0800	0.1121	0.1501	0.1901	0.2352	0.2879	0.3514	0.4213	0.4968	0.5816	0.6744	0.7697
Zn 0-1	0.0010	0.0048	0.0125	0.0228	0.0388	0.0594	0.0876	0.1231	0.1631	0.2061	0.2563	0.3141	0.3837	0.4578	0.5416	0.6339	0.7374	0.8402
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

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

Change Selection

Nav Bar ANL

Back | Next | PreCal | PostCal | Prepare | PreCal Read | Calibrate | Gray | PostCal Read | Datagrid | Gray | Satur | Lumi | C Chk | Final Check | Notes | GRD

Pre-Cal | Post-Cal

Back | Next

CalMAN 5 CalMAN Enthusiast for Home Video

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, 180, 150	180, 180, 121	180, 180, 88	180, 180, 16
Target x:CIE31	0.3396	0.3657	0.3918	0.4193
x: CIE31	0.3423	0.3647	0.3947	0.4169
Target y:CIE31	0.3734	0.4165	0.4598	0.5053
y: CIE31	0.3766	0.4203	0.4593	0.5066
Target Y	12.1604	11.9248	11.7392	11.5834
Y	12.1334	11.4299	11.2541	11.1117
Gamma Point: Flat	2.5380	2.8287	2.9041	2.9661
ΔE 2000	0.7658	1.2622	1.1850	1.1152
dE2000 LuminanceCompensated	0.7709	0.9284	0.7120	0.5725
ΔE 1994 L*:±	-0.0687	-1.2929	-1.2805	-1.2559
ΔE 1994 Sat:±	1.3092	0.7938	-0.5260	-1.1479
ΔE 1994 Hue:±	-0.3574	1.1332	-1.1667	1.0879
Signed dE94 L LuminanceCompensated	0.0000	0.0000	0.0000	0.0000
Signed dE94 C LuminanceCompensated	1.3229	1.2988	0.2361	-0.0721
Signed dE94 H LuminanceCompensated	-0.3572	1.1252	-1.1585	1.0804

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	0.4026	0.4925	0.5723	0.6400
x: CIE31	0.4043	0.4771	0.5639	0.6398
Target y:CIE31	0.3293	0.3296	0.3298	0.3300
y: CIE31	0.3285	0.3273	0.3289	0.3304
Target Y	4.2157	2.8031	2.1617	1.8104
Y	4.1392	2.8725	2.1648	1.7764
Gamma Point: Flat	4.8935	6.1567	7.1348	7.8185
ΔE 2000	0.4946	1.4948	0.8199	0.3349
dE2000 LuminanceCompensated	0.3441	1.5010	0.8247	0.0884
ΔE 1994 L*:±	-0.4429	0.5204	0.0276	-0.3467
ΔE 1994 Sat:±	0.5036	-3.3072	-2.0952	-0.5721
ΔE 1994 Hue:±	-0.2377	-1.5338	-1.0988	0.1644
Signed dE94 L LuminanceCompensated	0.0000	0.0000	0.0000	0.0000
Signed dE94 C LuminanceCompensated	0.6852	-3.7176	-2.1265	-0.0476
Signed dE94 H LuminanceCompensated	-0.2370	-1.5400	-1.0991	0.1649

Nav Bar

ANL

Back | Next

PreCal | PostCal | Prepare | PreCal Read | Calibrate | Satur | PostCal Read | Datagrid | Gray | Lumi | C Chk | Final Check | Notes | GRD

Pre-Cal

25% | 50% | 75% | 100%

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

Change Selection

Post-Cal

25% | 50% | 75% | 100%

Pre-Cal | Post-Cal

Back | Next

CalMAN 5 CalMAN Enthusiast for Home Video

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	0.4154	0.3845	0.2442	0.3430	0.2646	0.2593	0.5260	0.2083	0.4790	0.2855	0.3781
x: CIE31	0.3147	0.3107	0.3147	0.3107	0.3147	0.4003	0.3813	0.2495	0.3418	0.2681	0.2638	0.5152	0.2146	0.4653	0.2876	0.3736
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3662	0.3580	0.2593	0.4398	0.2460	0.3624	0.4054	0.1782	0.3124	0.2084	0.5025
y: CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3620	0.3582	0.2634	0.4257	0.2500	0.3622	0.4053	0.1932	0.3131	0.2253	0.4935
Target Y	23.7957	18.4566	14.8623	11.2027	7.5845	1.9224	7.7240	3.9087	2.6026	4.9756	9.4147	6.2242	2.3239	3.9485	1.2173	9.6869
Y	23.7957	18.6114	14.8148	11.5508	8.0064	2.3188	8.2991	4.3504	3.0276	5.4215	9.9731	6.4772	2.6726	4.2426	1.5354	10.0495
Gamma Point: Flat	2.4000	2.3211	2.4163	2.3025	2.2864	2.9327	3.8016	3.4591	2.3772	3.9784	2.8845	7.9671	4.8867	6.2232	3.1601	2.7461
ΔE 2000	1.5767	1.4803	1.3552	1.4299	1.6359	2.8932	1.6956	2.3847	2.7565	1.9794	1.4627	1.2368	3.2085	1.7830	3.1614	1.2387
dE2000 LuminanceCompensated	1.5767	1.4688	1.3533	1.2590	1.1086	1.7862	0.7587	0.9487	1.6432	0.7524	0.9276	1.0791	2.8465	1.2562	2.7472	1.1065
ΔE 1994 L*:±	0.0000	0.2971	-0.1058	0.9252	1.4429	3.2342	1.9314	2.3080	2.8687	1.9981	1.6513	0.9915	2.5478	1.5446	3.4645	1.0596
ΔE 1994 Sat:±	1.1253	1.0437	0.9608	0.8903	0.7827	-1.8896	-0.4606	-0.7768	-2.0630	-0.7095	-1.3215	-3.3674	-4.3089	-2.6492	-3.8759	-2.9558
ΔE 1994 Hue:±	0.0000	0.0000	0.0000	0.0000	0.0000	-0.0040	0.5508	0.5321	-0.3940	0.3858	-0.6957	0.3116	-2.2576	-0.6475	-0.7839	1.0466
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	0.4154	0.3845	0.2442	0.3430	0.2646	0.2593	0.5260	0.2083	0.4790	0.2855	0.3781
x: CIE31	0.3126	0.3125	0.3125	0.3125	0.3124	0.4143	0.3829	0.2473	0.3551	0.2645	0.2589	0.5132	0.2099	0.4696	0.3028	0.3887
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3662	0.3580	0.2593	0.4398	0.2460	0.3624	0.4054	0.1782	0.3124	0.2084	0.5025
y: CIE31	0.3286	0.3288	0.3298	0.3281	0.3295	0.3724	0.3593	0.2593	0.4500	0.2440	0.3583	0.4110	0.1845	0.3141	0.2283	0.5025
Target Y	17.0341	13.2121	10.6392	8.0194	5.4293	1.3761	5.5292	2.7981	1.8631	3.5618	6.7395	4.4556	1.6636	2.8265	0.8714	6.9343
Y	17.0341	13.1748	10.6294	7.9102	5.2870	1.3886	5.3280	2.8261	1.9119	3.5630	6.3405	4.3807	1.6245	2.9107	0.9062	7.1401
Gamma Point: Flat	2.4000	2.4267	2.4047	2.4437	2.4558	3.1576	4.1945	3.6568	2.5218	4.2083	3.2781	8.3148	5.2523	6.3766	3.3827	2.7700
ΔE 2000	0.2833	0.1284	0.6913	0.5932	0.7361	1.6780	1.1710	1.1412	2.0187	0.5482	1.6995	2.1489	1.5473	0.9755	2.6589	2.2125
dE2000 LuminanceCompensated	0.2833	0.1121	0.6910	0.5096	0.4391	1.6811	0.7597	1.1271	1.9259	0.5471	0.8461	2.0652	1.4245	0.9049	2.7652	2.0900
ΔE 1994 L*:±	0.0000	-0.1005	-0.0302	-0.4114	-0.6986	0.1507	-0.9789	0.2115	0.4804	0.0082	-1.7148	-0.4184	-0.4217	0.6261	0.5655	0.8420
ΔE 1994 Sat:±	0.2394	0.1114	0.5001	0.4147	0.3024	-0.0903	-0.7395	-0.2301	2.4496	0.8687	-1.8045	-4.3567	-3.0902	-2.4178	-4.7885	1.8974
ΔE 1994 Hue:±	0.0000	0.0000	0.0000	0.0000	0.0000	1.7605	0.7681	1.1527	-2.4132	0.4422	1.0650	2.9189	-1.3587	-0.0041	2.4898	-4.0145
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

Nav Bar ANL

Back | Next | PreCal | PostCal | Prepare | PreCal Read | Calibrate | C Chk | PostCal Read | Datagrid | Gray | Satur | Lumi | C Chk | Final Check | Notes GRD

Pre-Cal | Post-Cal

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