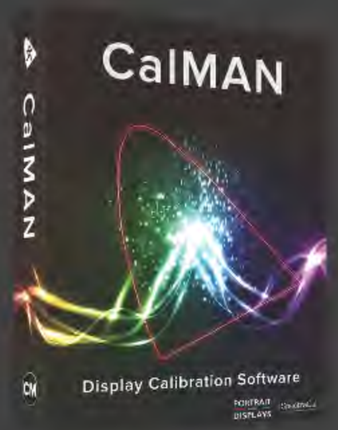
Welcome to the HT Enthusiast Essentials Workflow ... Just the main stuff! v1.1.0

↘ Introduction ↙
→ Prepare ←
↓ Calibrate ↑
← Finalize →



CalMAN HDR10

AutoCal™

Featuring ...

- Comprehensive Notes Management - access button always at bottom right
- Integrated Session Setup layout with hardware configuration and dynamic range assessment
- Meter Stability layout
- Meter Profile Analysis layout

Session Setup

- Single layout takes all desired Pre-calibration or Post-calibration readings
- Expanded 2-Point and Multi-Point Grayscale calibration layouts with Datagrids
- CMS Gamut detailed calibration layout with Datagrid
- Saturation Sweep detailed calibration layout with Datagrid
- 3D Color Cube LUT calibration layouts with separate detailed chart layout
- Compare Calibrations layout lets you check two calibrations side by side
- High-count calibration points, HDR friendly with EOTF charts

Session Setup

- DeltaE is DEITP: Compensated is default, With Luminance Error if indicated or after the "/"
- Layout indicators: ℹ Calibration

Featuring navigation for the Mouse Lazy ... Big & small screen friendly!

- Navigation bar on right shows where you are and takes you where you want to go
- Toggle buttons switch between Pre-Calibration and Post-Calibration Readings

And more!

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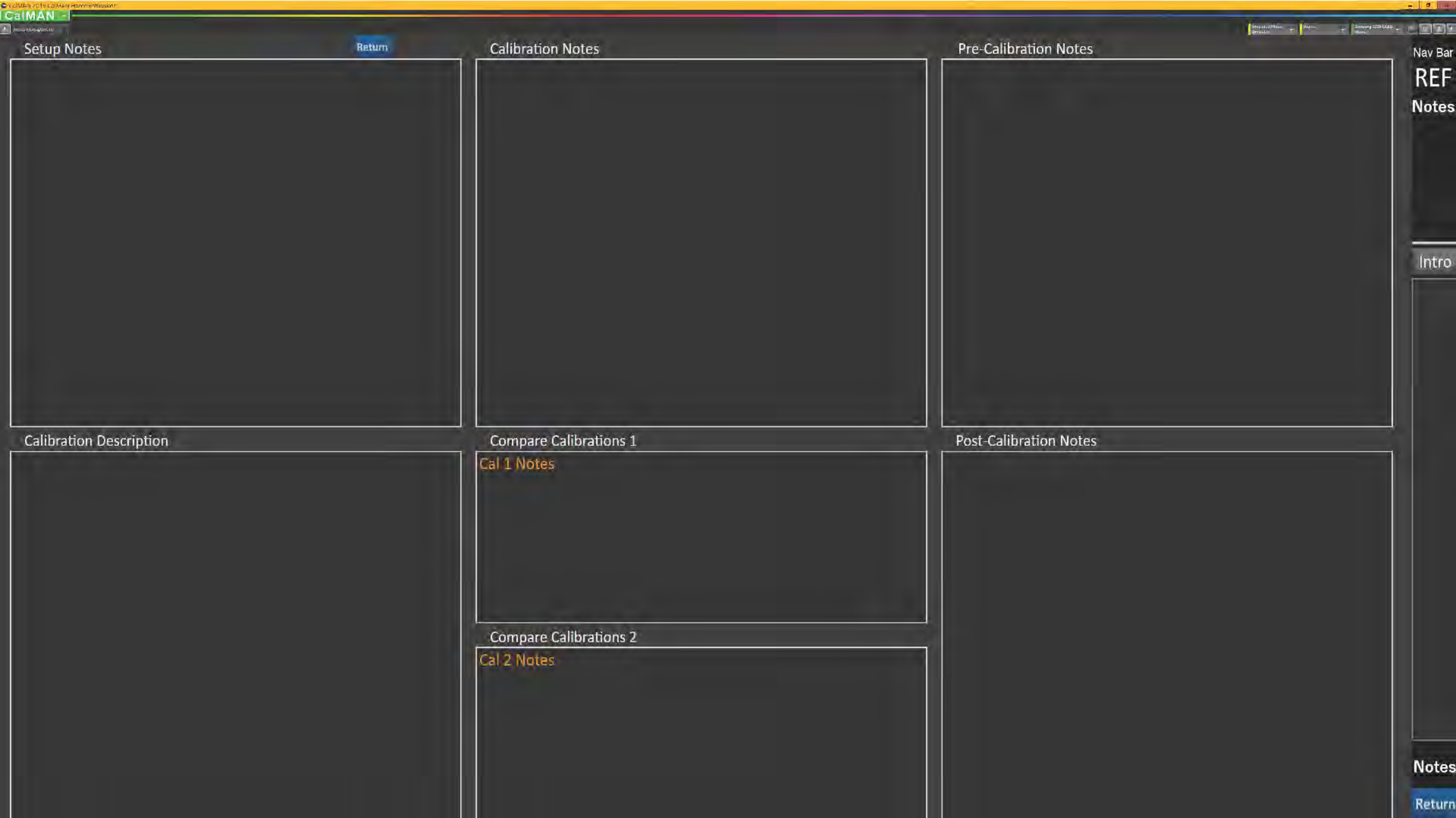
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Session Setup

2/25/2019 Calibration

(A) Session Options

Start New Session

Session Info

More Options

Use u'v' CIE Charts

Setup Notes

Calibration Description

Notes

Luminance Unit: cd/m²

Input Level: Video (16-235)

Stimulus Unit: Percent

DeltaE Formula: dE ICtCp 720

Colorspace Target: D65, HD BT.709

Gamma Formula: ITU BT.1886

Display ● 75Q9FN

Target Black and White	cd/m2 Blk	fL	cd/m2 Wht	fL	Target Gamma
	0.0001	3E-05	100	29.2	1

(B) Display Settings

AV Mode: Cal Night 100 nits

				Cut	Gain
Color Temp	Warm 2	Contrast	40		
Sharpness	0	Brightness	1		
Color	25	Backlight	20		
Tint	0	TV Gamma	0		
		Red	-2	-4	
		Green	-4	-4	
		Blue	-2	-4	

(C) Hardware Configuration

Meter Stability | Profile Analysis

① Meter

Find → | Kill All | Manage

Simulated Meter

Profile

Mode: Simulated

② Pattern Source

Find → | Kill All | Manage

Source

Size: Full 100%

Delay: 0.5

③ Display / Processor

Find → | Kill All | Manage

Samsung 2018 QLED

Samsung - 2018 QLED 9600 baud COM 5 DDC

Display Slot: Movie

Gray Levels: SDR-Q900/Q9/Q8

(D) Meter Setup

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

Projector

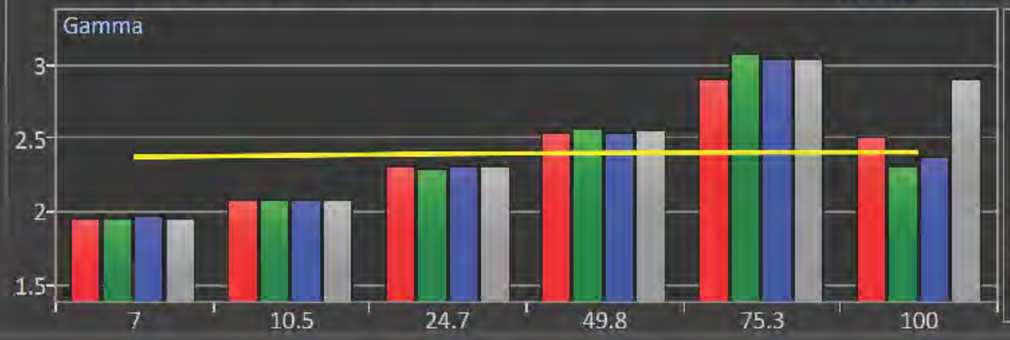
Flat Panel

(E) Dynamic Range

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

QLED Gamma Check

RGB Chart DDC



White / Black cd/m²
82.1 / 0

Level
100

		Target
Gamma	2.91	2.4
CCT	6646	6503
Y	82.0995	100

Nav Bar

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2/25/2019 Calibration

(A) Session Options

Start New Session

Session Info

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				Cut	Gain
Color Temp	Warm 2	Contrast	40		
Sharpness	0	Brightness	1		
Color	25	Backlight	20		
Tint	0	TV Gamma	0		
		Red		-2	-4
		Green		-4	-4
		Blue		-2	-4

Display Controls

Backlight	21
Brightness	0
Contrast	45
Sharpness	0
Color	25
Tint (G/R)	0
Local Dimming	Standard
Color Tone	Warm2
R-Gain	0
G-Gain	0
B-Gain	0
R-Offset	0
G-Offset	0
B-Offset	0
Gamma	0

Reset Display Slot

Display Slot: Movie

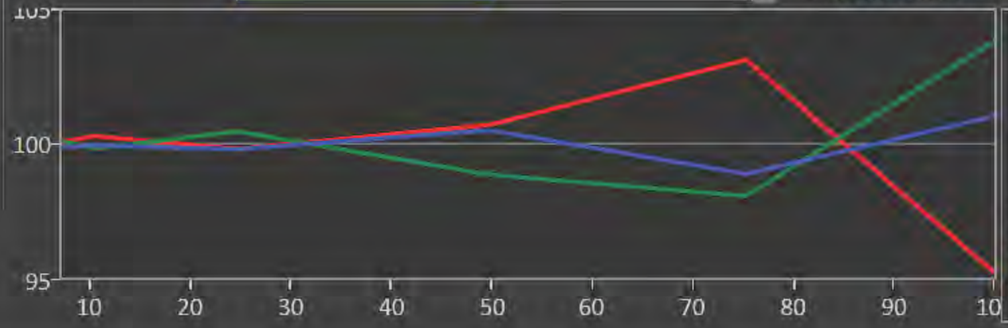
DDC

Gray Levels: SDR-Q900/Q9/Q8

QLED Gamma Check

RGB Chart

DDC



White / Black cd/m²
82.1 / 0

Level 100

		Target
Gamma	2.91	2.4
CCT	6646	6503
Y	82.0995	100

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(A) Session Options

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Colorspace Target: D65, HD BT.709

Gamma Formula: ITU BT.1886

Display • 75Q9FN

Target Black and White					Target
cd/m2 Blk	fL		cd/m2 Wht	fL	Gamma
0.0001	3E-05		100	29.2	1

(B) Display Settings

AV Mode: Cal Night 100 nits

				Cut	Gain
Color Temp	Warm 2	Contrast	40		
Sharpness	0	Brightness	1	Red -2	-4
Color	25	Backlight	20	Green -4	-4
Tint	0	TV Gamma	0	Blue -2	-4

(C) Hardware Configuration

Meter Stability | Profile Analysis

Create Profile

Profile

Meter Settings

Reference Meter: Simulated Meter - 12345678

Advanced Options

Target Meter: Simulated Meter - 12345678

Advanced Options

Find more meters

Source

Source - 1

Stimulus Level: 100

Prompt for pattern changes

Profile Information

Current Profile: None

◀ Select a profile

Add Profile

Display Type: Simulated

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

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Meter Profile Analysis

Manage Profiles | Clear Reference | Clear Profiled

Select a meter and do the appropriate reference or profiled Read All or a Read Single selected color.
Select the same color in both CMS sliders to view a specific comparison: Reference is always on left or above.

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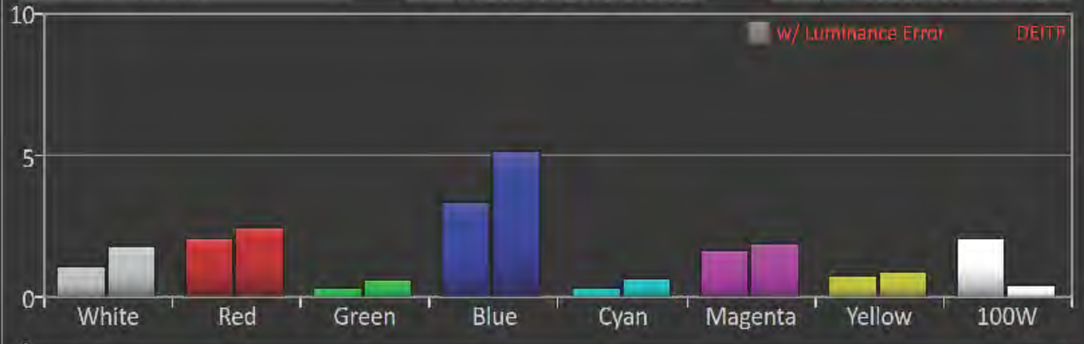
CMS Gamut Analysis

Refresh Charts | Target 100W → cd/m² 100 fL 29.19

Simulated Meter

Read All as Reference | Read All as Profiled



Reference Meter CMS

	White	Red	Green	Blue	Cyan	Magenta	Yellow	100W
Y cd/m²	41.9694	8.8900	30.0707	3.1032	33.1597	12.0912	38.6259	82.3142
x: CIE31	0.3120	0.6376	0.2991	0.1517	0.2252	0.3214	0.4186	0.3103
y: CIE31	0.3310	0.3285	0.5999	0.0615	0.3282	0.1562	0.5040	0.3311
RED Linear 0-1	0.4112	0.4180	-0.0016	0.0024	0.0027	0.4187	0.4164	0.7905
Green Linear 0-1	0.4227	-0.0001	0.4209	0.0005	0.4203	0.0025	0.4161	0.8334
Blue Linear 0-1	0.4149	0.0012	0.0005	0.4176	0.4221	0.4165	0.0018	0.8175

Read Single as Reference →

Simulated Meter

Read Single as Profiled →

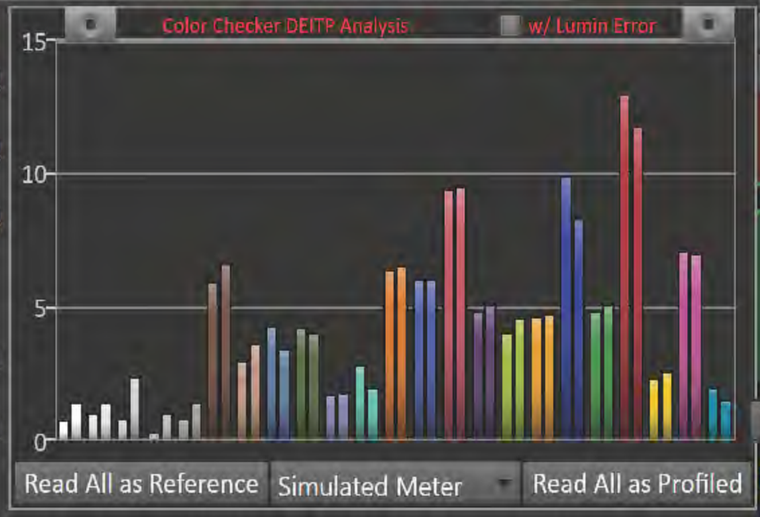
White | Red | Green | Blue | Cyan | Magenta | Yellow | 100W

White | Red | Green | Blue | Cyan | Magenta | Yellow | 100W

Profiled Meter CMS

	White	Red	Green	Blue	Cyan	Magenta	Yellow	100W
Y cd/m²	42.2279	9.0460	30.2084	3.1137	32.9676	11.9024	38.4886	81.5216
x: CIE31	0.3116	0.6363	0.2985	0.1526	0.2255	0.3225	0.4189	0.3134
y: CIE31	0.3325	0.3304	0.6000	0.0620	0.3278	0.1537	0.5035	0.3303
RED Linear 0-1	0.4081	0.4210	-0.0028	0.0039	0.0043	0.4239	0.4165	0.8147
Green Linear 0-1	0.4273	0.0012	0.4232	0.0005	0.4173	-0.0018	0.4141	0.8162
Blue Linear 0-1	0.4138	0.0009	0.0008	0.4151	0.4204	0.4183	0.0020	0.8064

CMS Detail	Reference	Profiled	Ref Target
Red Linear	0.7905	0.81475	0.82314
Green Linear	0.83342	0.81624	0.82314
Blue Linear	0.81749	0.80641	0.82314
Y cd/m²	82.314	81.522	82.314
x CIE31	0.31032	0.31336	0.31271
y CIE31	0.33107	0.3303	0.32901
DEITP	2.15 / 2.15	0.5 / 0.5	



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Meter Profile Analysis

Manage Profiles | Clear Reference | Clear Profiled

Select a meter and do the appropriate reference or profiled Read All or a Read Single selected color.
Select the same color in both CMS sliders to view a specific comparison: Reference is always on left or above.

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Create Profile

Meter Settings

Reference Meter: Simulated Meter - 12345678

Advanced Options

Target Meter: Simulated Meter - 12345678

Advanced Options

Find more meters

Source

Source - 1

Stimulus Level:

100 — Select stimulus between 75 - 85 to avoid clipping and better sample the display

Prompt for pattern changes

Profile Information

Current Profile: None

Add Profile

Display Type: Simulated

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

Reference Meter CMS

	White	Red	Green	Blue	Cyan	Magenta	Yellow	100W
Y cd/m²	41.9694	8.8900	30.0707	3.1032	33.1597	12.0912	38.6259	82.3142
x: CIE31	0.3120	0.6376	0.2991	0.1517	0.2252	0.3214	0.4186	0.3103
y: CIE31	0.3310	0.3285	0.5999	0.0615	0.3282	0.1562	0.5040	0.3311
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Green Linear 0-1	0.4227	-0.0001	0.4209	0.0005	0.4203	0.0025	0.4161	0.8334
Blue Linear 0-1	0.4149	0.0012	0.0005	0.4176	0.4221	0.4165	0.0018	0.8175

Read Single as Reference →

Simulated Meter

Read Single as Profiled →

White | Red | Green | Blue | Cyan | Magenta | Yellow | 100W

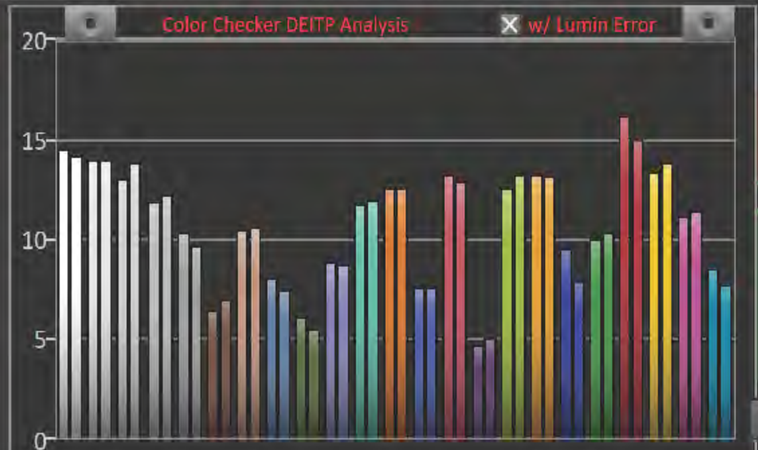
White | Red | Green | Blue | Cyan | Magenta | Yellow | 100W

Profiled Meter CMS

	White	Red	Green	Blue	Cyan	Magenta	Yellow	100W
Y cd/m²	42.2279	9.0460	30.2084	3.1137	32.9676	11.9024	38.4886	81.5216
x: CIE31	0.3116	0.6363	0.2985	0.1526	0.2255	0.3225	0.4189	0.3134
y: CIE31	0.3325	0.3304	0.6000	0.0620	0.3278	0.1537	0.5035	0.3303
RED Linear 0-1	0.4081	0.4210	-0.0028	0.0039	0.0043	0.4239	0.4165	0.8147
Green Linear 0-1	0.4273	0.0012	0.4232	0.0005	0.4173	-0.0018	0.4141	0.8162
Blue Linear 0-1	0.4138	0.0009	0.0008	0.4151	0.4204	0.4183	0.0020	0.8064

CMS Detail	Reference	Profiled	Ref Target
Red Linear	0.41798	0.42102	0.4197
Green Linear	-0.0001	0.00121	0
Blue Linear	0.00116	0.00088	0
Y cd/m²	8.89	9.046	8.925
x CIE31	0.63762	0.63632	0.64
y CIE31	0.32849	0.33037	0.33
DEITP	2.09 / 2.15	2.5 / 2.35	

Color Checker DEITP Analysis — w/ Lumin Error



Read All as Reference | Simulated Meter | Read All as Profiled

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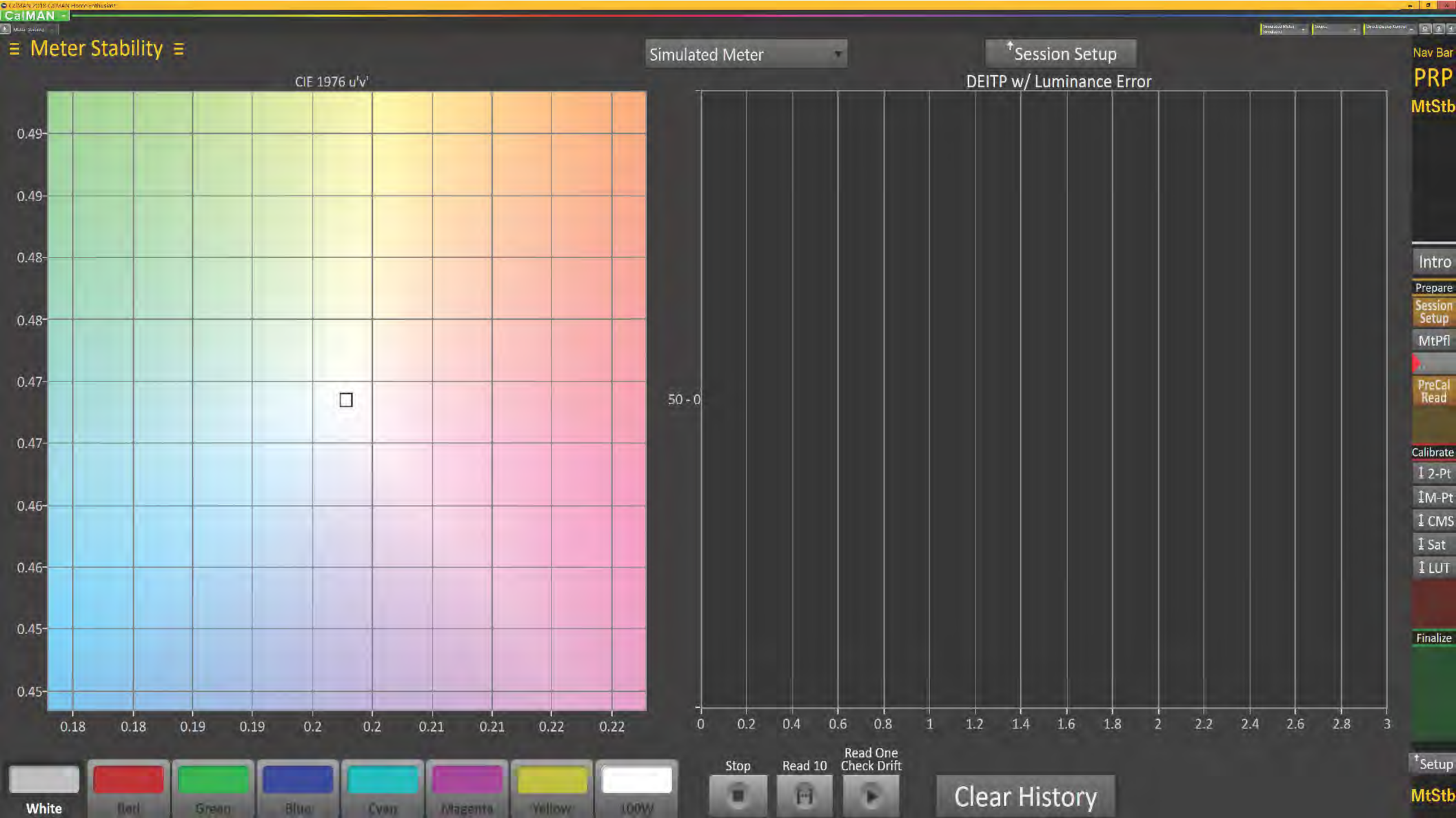
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CIE 1976 u'v'
0.49
0.49
0.48
0.48
0.47
0.47
0.46
0.46
0.45
0.45
0.18
0.18
0.19
0.19
0.2
0.2
0.21
0.21
0.22
0.22
DEITP w/ Luminance Error
50 - 0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
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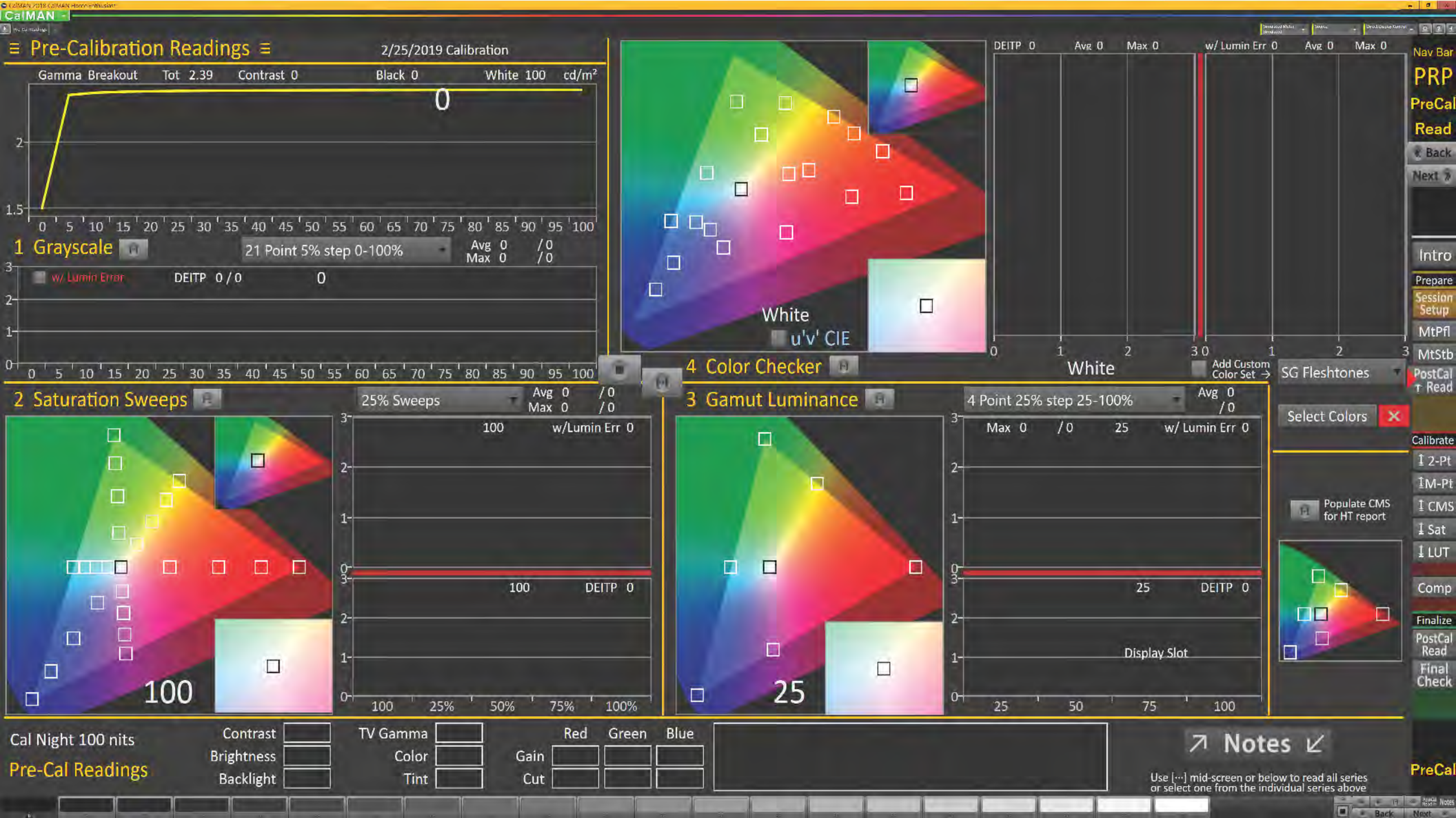
Yellow
100%
Stop
Read 10
Read One Check Drift
Clear History


CalMAN
Pre-Calibration Readings
2/25/2019 Calibration
Gamma Breakout Tot 2.39 Contrast 0 Black 0 White 100 cd/m²
1 Grayscale
21 Point 5% step 0-100%
w/ Lumin Error
DEITP 0 / 0
2 Saturation Sweeps
25% Sweeps
w/Lumin Err 0
DEITP 0
3 Gamut Luminance
4 Point 25% step 25-100%
Display Slot
4 Color Checker
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DEITP 0 Avg 0 Max 0
w/ Lumin Err 0 Avg 0 Max 0
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SG Fleshtones
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Notes
Use [···] mid-screen or below to read all series or select one from the individual series above

≡ 2-Point Grayscale Calibration ≡

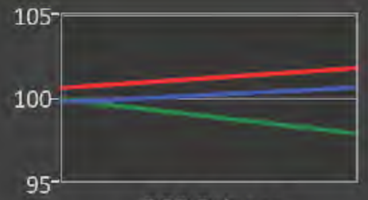
Grayscale 2-Point Adjust

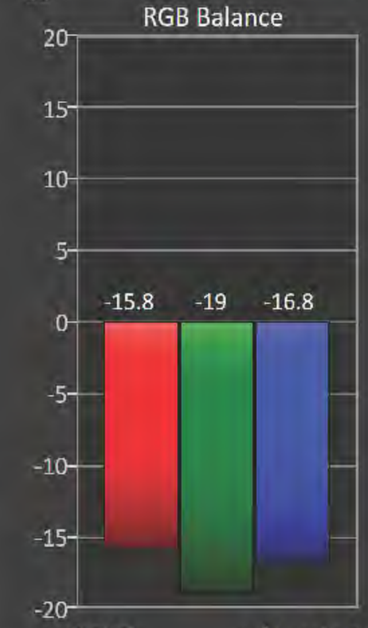
1. Reduce the Red, Green, and/or Blue (RGB) High controls to the lowest measured R, G, or B after the initial measurement of bright grayscale pattern. Continue doing this until you balance RGB to a deltaE of 3 or below (chart below).
2. Balance the RGB Low controls (if provided), while measuring a dark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

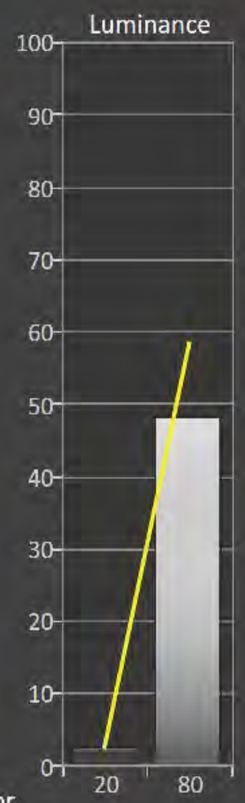
Selecting Points:

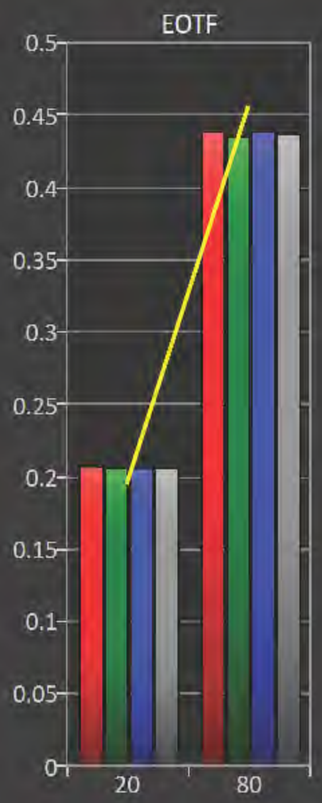
- **30% and 80%:** Use these levels if you only have access to a two point grayscale adjustment
- **30% and 100%:** Use these levels if you will be completing a multipoint adjustment afterwards and do not have access to a Peak White pattern.
- **30% and Peak White:** Use these levels if your display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

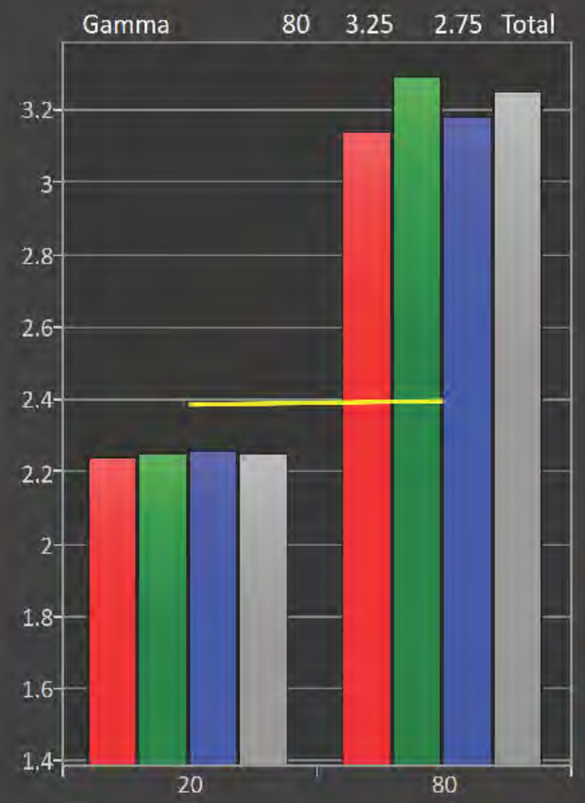
	20	80
RGB Triplet	60, 60, 60	191, 191, 191
Red index	60.0000	191.0000
Green index	60.0000	191.0000
Blue index	60.0000	191.0000
X	2.5680	46.3090
Y cd/m²	2.6915	48.2061
Z	2.9071	53.1701
Xn 0-1	0.0257	0.4631
Yn 0-1	0.0269	0.4821
Zn 0-1	0.0291	0.5317
Stimulus Percent	0.2009	0.7991
RED Stim%:0-1	0.2009	0.7991
GRN Stim%:0-1	0.2009	0.7991
BLU Stim%:0-1	0.2009	0.7991

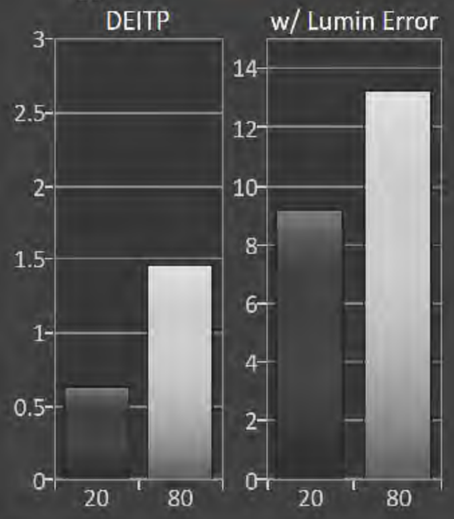








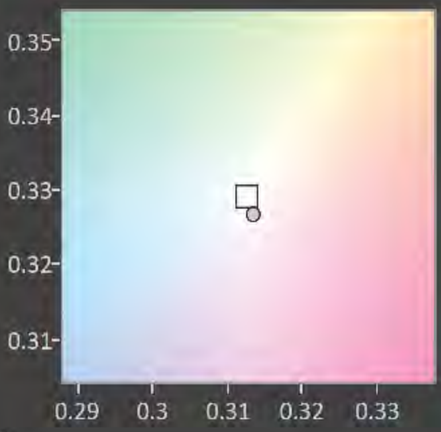




80

CCT	6475	6503	Target
Gamma	3.25	2.39	Target
DEITP	1.46	/ 13.3	w/ Lumin Error

	Y cd/m²	x	y
Read →	48.20605	0.3136	0.3264
Target →	58.48626	0.3127	0.329



DDC

2 Point 20%, 80%

Triplet
191, 191, 191

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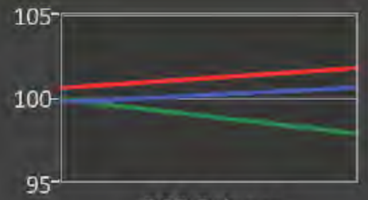
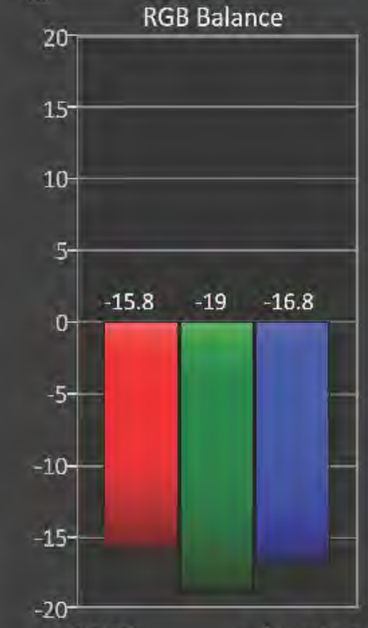
CalMAN

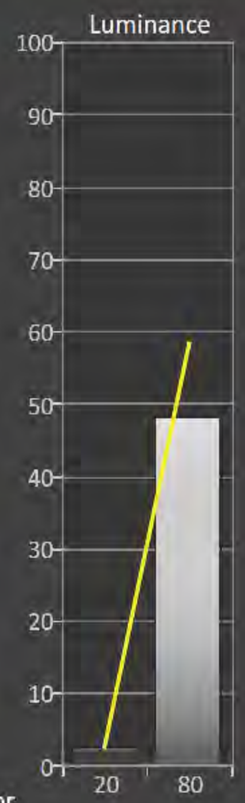
2-Point Grayscale Calibration

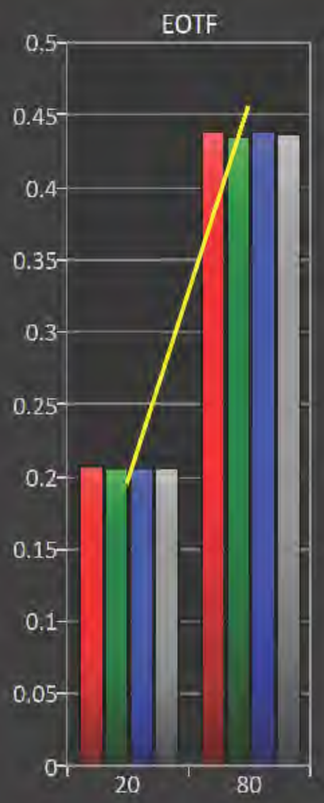
Display Controls

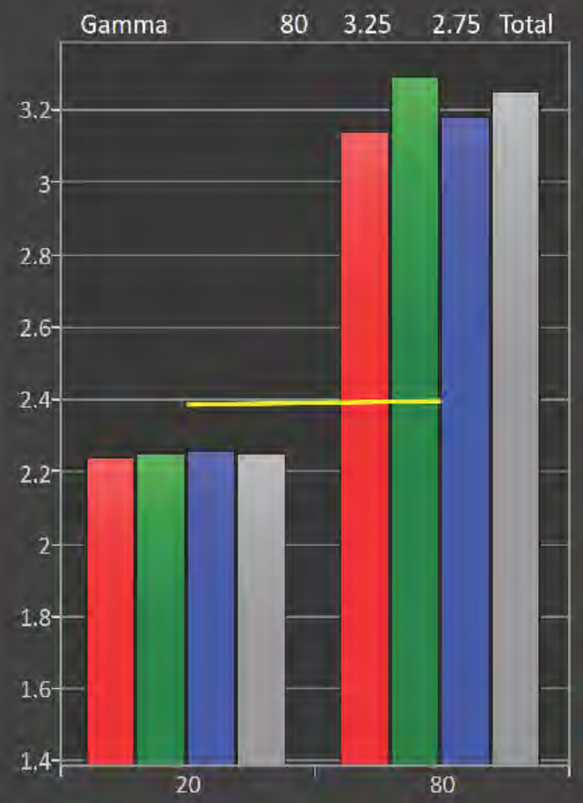
Backlight	34
Brightness	0
Contrast	23
Sharpness	0
Color	26
Tint (G/R)	-1
Color Tone	Warm2
R-Gain	0
G-Gain	0
B-Gain	0
R-Offset	0
G-Offset	-3
B-Offset	0
Gamma	1
HDMI Black Level	Low

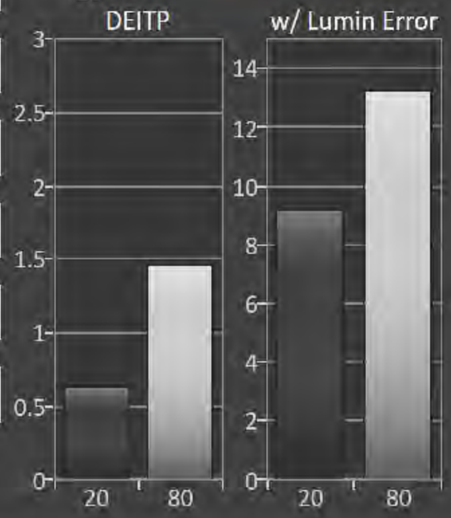












80

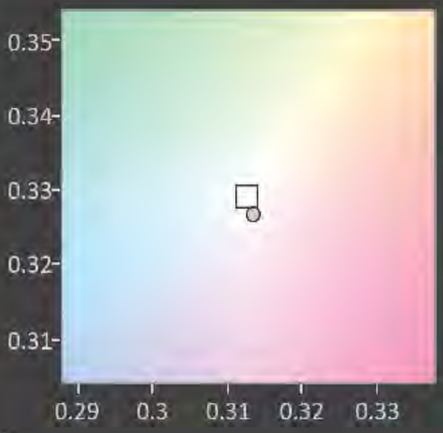
CCT	6475	6503	Target
Gamma	3.25	2.39	Target
DEITP	1.46	/ 13.3	w/ Lumin Error

	Y cd/m²	x	y
Read →	48.20605	0.3136	0.3264
Target →	58.48626	0.3127	0.329

DDC

2 Point 20%, 80%

Triplet
191, 191, 191



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Final Check
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Multi-Point Grayscale Calibration
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Luminance
Chart Mode
Display DDC
Comparator
Datagrid
CCT
DEITP w/Luminance Error
DEITP
RGB Relative
CCT
Avg 6505
Tgt 6503
DEITP
Avg 1.09/ 11.06
Max 2.84/ 28.5
Gamma
Tot 3.2
Tgt 2.4
Contrast 0
Black 0
cd/m²
White 81.3
Summary
Display Slot
CAL-DAY
QLED 20 Point 7-100%
Gamma
RGB Balance
-23.7
-23
-23.4
Triplet
235, 235, 235
100
w/ Luminance Error
DEITP
w/ Luminance Error
dE 0.26/ 14.85
Target
Gamma 2.95 / 2.4
CCT 6514 / 6503
cd/m²
Y 81.316 / 100
x 0.3125 / 0.3127
y 0.3294 / 0.329
Red
Green
Blue
7 15 50 -50
10.5 -18 10 -4
15.5 -16 4 0
19.6 -24 -4 -8
24.7 -24 -6 -12
29.7 -21 -3 -12
35 -12 3 -6
39.7 -9 9 -3
44.7 -9 9 6
49.8 -3 12 9
55 -3 11 12
60.3 -3 9 15
65 0 12 15
70 0 12 12
75.3 0 14 14
81 -1 11 15
86 2 14 16
90.4 3 15 17
97.7 5 16 20
100 6 16 20
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CalMAN
Multi-Point Grayscale Calibration
CCT
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Comparator
Datagrid
EOTF
RGB Relative
Picture Size
16x9
Fit to Screen
On
Backlight
34
Brightness
0
Contrast
23
Sharpness
0
Color
26
Tint (G/R)
-1
Apply Picture Settings
All Sources
Digital Clean View
Off
Red
Green
Blue
7 15 50 -50
10.5 -18 10 -4
15.5 -16 4 0
19.6 -24 -4 -8
24.7 -24 -6 -12
29.7 -21 -3 -12
35 -12 3 -6
39.7 -9 9 -3
44.7 -9 9 6
49.8 -3 12 9
55 -3 11 12
60.3 -3 9 15
86 2 14 16
90.4 3 15 17
97.7 5 16 20
100 6 16 20
Y 81.316 / 100
cd/m²
x 0.3125 / 0.3127
y 0.3294 / 0.329
-23.7
-23
-23.4
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CalMAN

Multi-Point Grayscale Calibration

EOTF | Luminance ←Chart Mode | Display DDC | Comparator | Datagrid | Click grid to select it then click Configure to select data | Configure

	7	10.5	15.5	19.6	24.7	29.7	35	39.7	44.7	49.8	55	60.3	65	70	75.3	81	86	90.4	97.7	100
RGB Triplet	31, 31, 31	39, 39, 39	50, 50, 50	59, 59, 59	70, 70, 70	81, 81, 81	93, 93, 93	103, 103, 103	114, 114, 114	125, 125, 125	136, 136, 136	148, 148, 148	158, 158, 158	169, 169, 169	181, 181, 181	193, 193, 193	204, 204, 204	214, 214, 214	230, 230, 230	235,
Target Y cd/m²	0.1776	0.4773	1.1920	2.0733	3.5539	5.5170	8.2523	11.0349	14.6534	18.8833	23.7512	29.8182	35.4987	42.4243	50.8129	60.0969	69.4155	78.5742	94.6246	100.0
Y cd/m²	0.5128	0.9228	1.7038	2.5880	3.9281	5.6319	8.0546	10.3440	13.2908	16.9032	20.9759	25.5228	30.4162	35.6917	42.4020	49.3968	57.5205	64.7188	77.8837	81.31
Target x:CIE31	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.312
x: CIE31	0.3132	0.3116	0.3144	0.3104	0.3146	0.3127	0.3103	0.3129	0.3117	0.3123	0.3129	0.3162	0.3100	0.3147	0.3136	0.3150	0.3114	0.3139	0.3090	0.312
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.329
y: CIE31	0.3276	0.3320	0.3284	0.3296	0.3277	0.3271	0.3299	0.3287	0.3282	0.3287	0.3316	0.3279	0.3314	0.3289	0.3300	0.3258	0.3301	0.3281	0.3306	0.329
Target CCT	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503
CCT	6487.0000	6542.0000	6417.0000	6625.0000	6407.0000	6517.0000	6627.0000	6496.0000	6567.0000	6528.0000	6473.0000	6321.0000	6631.0000	6393.0000	6451.0000	6403.0000	6567.0000	6446.0000	6697.0000	6514

RGB Relative

CCT Avg 6505 Tgt 6503 | Gamma Tot 3.2 Tgt 2.4

DEITP Avg 1.09/ 11.06 Max 2.84/ 28.5

Contrast 0

Black 0 cd/m²

White 81.3

Summary

Display Slot CAL-DAY

QLED 20 Point 7-100%

Gamma

RGB Balance

Triplet 235, 235, 235

100

w/ Luminance Error DEITP

w/ Luminance Error

dE 0.26/ 14.85

Target

Gamma 2.95 / 2.4

CCT 6514 / 6503

Y cd/m² 81.316 / 100

x 0.3125 / 0.3127

y 0.3294 / 0.329

49.8	-3	12	9
55	-3	11	12
60.3	-3	9	15
65	0	12	15
70	0	12	12
75.3	0	14	14
81	-1	11	15
86	2	14	16
90.4	3	15	17
97.7	5	16	20
100	6	16	20

Gray Levels SDR-Q900/Q9/Q8

Reset Grayscale | Display DDC

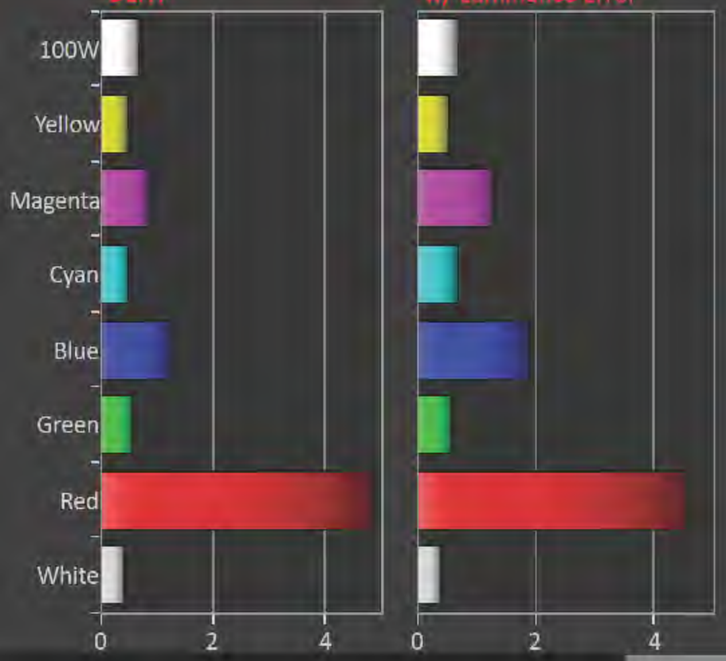
Nav Bar: CAL | Adjst | M-Pnt | Back | Next | Intro | Prepare | Session Setup | MtPfl | MtStb | PreCal Read | Calibrate | 2-Pt | CMS | Sat | LUT | Comp | Finalize | PostCal Read | Final Check | M-Pnt

CalMAN

CMS Gamut Calibration

Datagrid

DEITP | w/ Luminance Error



Summary

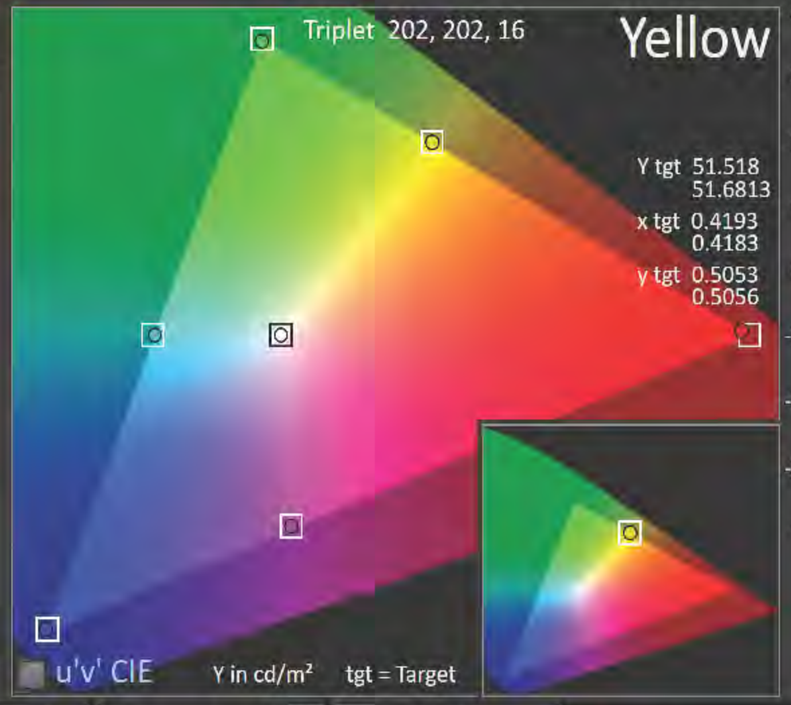
DEITP w/Lum Err ↓
Avg 1.21 / 1.33
Max 4.85 / 4.55

Delta L
Avg 0.197
Max 0.434

Delta H
Avg 0.275
Max 0.818

Delta C
Avg 0.796
Max 2.137

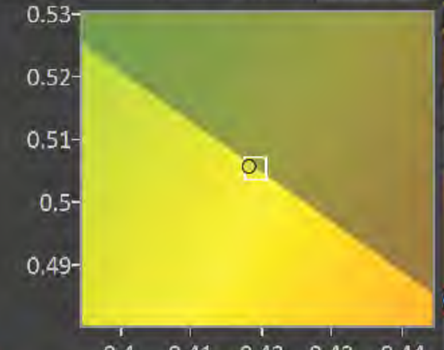
Black 0
White 81.7



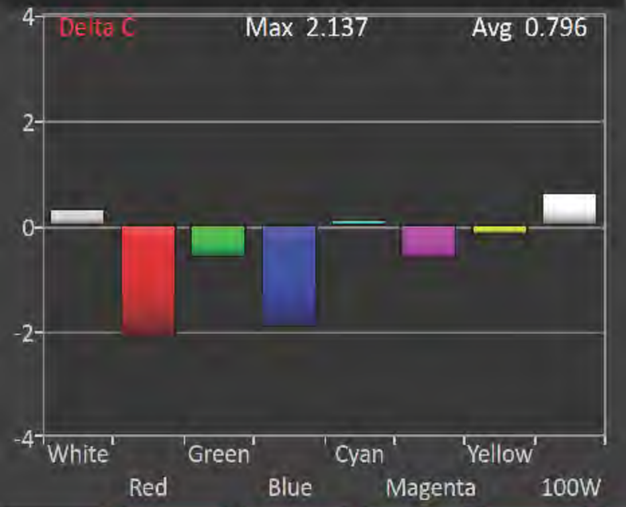
	Red	Green	Blue
Red	12	9	2
Green	42	25	6
Blue	0	0	27
Cyan	17	9	0
Magenta	0	7	0
Yellow	53	39	33

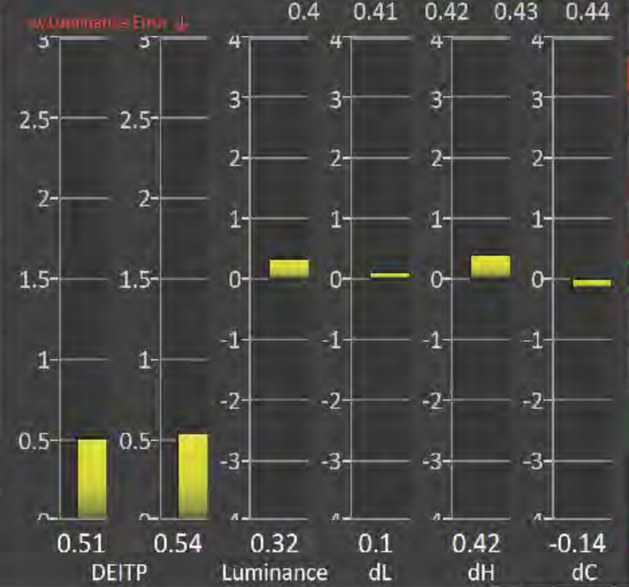
Reset CMS | CMS Adj Point 100%

Yellow



Gamut Lum Abs | Gamut Lum Rel | RGB Balance | Chart Mode





Display Slot CAL-DAY

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Final Check
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CalMAN
CMS Gamut Calibration
Datagrid
DEITP
w/ Luminance Error
100W
Yellow
Magenta
Cyan
Blue
Green
Red
White
0
2
4
Summary
DEITP w/Lum Er
Avg 1.21 / 1.33
Max 4.85 / 4.55
Delta L
Avg 0.197
Max 0.434
Delta H
Avg 0.275
Max 0.818
Delta C
Avg 0.796
Max 2.137
Black 0
White 81.7
Triplet 202, 202, 16
Yellow
Y tgt 51.518
51.6813
x tgt 0.4193
0.4183
y tgt 0.5053
0.5056
u'v' CIE
Y in cd/m²
tgt = Target
RGB Balance
-0.5
0.5
1.6
Red Green Blue
Red 12 9 2
Green 42 25 6
Blue 0 0 27
Cyan 17 9 0
Magenta 0 7 0
Yellow 53 39 33
Reset CMS
CMS Adj Point
100%
Yellow
0.53
0.52
0.51
0.5
0.49
0.4
0.41
0.42
0.43
0.44
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Final Check
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Gamut Luminance Relative
Delta C, H, L
Gamut Lum Abs
RGB Balance
Chart Mode
0.8
0.6
0.4
0.2
0
White
Red
Green
Blue
Cyan
Magenta
Yellow
100W
w/Luminance Error
Display Slot
CAL-DAY
0.51
DEITP
0.54
0.32
Luminance
0.1
dL
0.42
dH
-0.14
dC

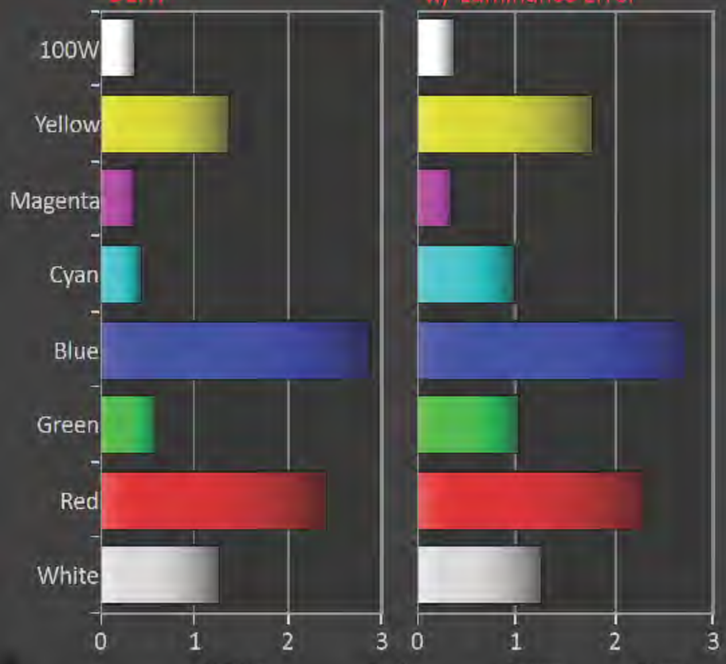
CalMAN

CMS Gamut Calibration

Click grid to select it then click Configure to select data

Datagrid

Configure



Summary

DEITP w/Lum Err ↓

Avg 1.21 / 1.36

Max 2.89 / 2.74

Delta L

Avg 0.192

Max 0.479

Delta H

Avg 0.324

Max 0.926

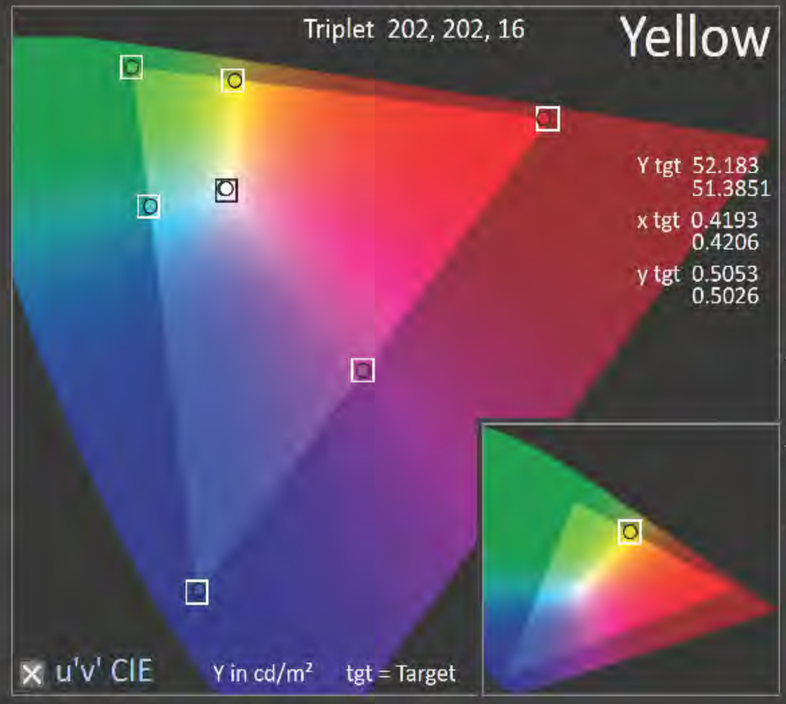
Delta C

Avg 0.7458

Max 1.525

Black 0

White 81.3

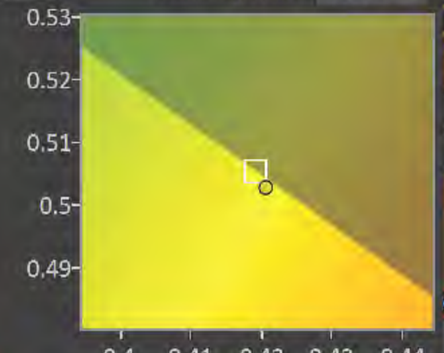


Yellow

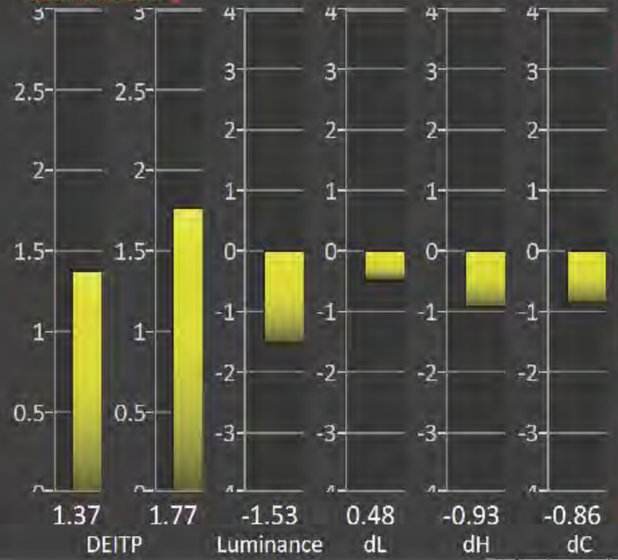
	Red	Green	Blue
Red	0	0	0
Green	0	0	0
Blue	0	0	0
Cyan	0	0	0
Magenta	0	0	0
Yellow	0	0	0

Reset CMS

CMS Adj Point 100%



	White	Red	Green	Blue	Cyan	Magenta	Yellow	100W
RGB Triplet	202, 202, 202	202, 16, 16	16, 202, 16	16, 16, 202	16, 202, 202	202, 16, 202	202, 202, 16	235, 235, 235
Target Y cd/m²	56.2431	11.9605	40.2227	4.0600	44.2827	16.0204	52.1831	81.2936
Y cd/m²	56.2431	12.0159	39.7592	4.1110	43.6841	15.9665	51.3851	81.2936
Target x:CIE31	0.3127	0.6400	0.3000	0.1500	0.2247	0.3209	0.4193	0.3127
x: CIE31	0.3126	0.6367	0.2995	0.1514	0.2246	0.3206	0.4206	0.3134
Target y:CIE31	0.3290	0.3300	0.6000	0.0600	0.3287	0.1542	0.5053	0.3290
y: CIE31	0.3319	0.3307	0.5988	0.0607	0.3273	0.1536	0.5026	0.3297
Target CCT	6503.4440	3096.5526	6066.4399	1848.1332	12863.1837	3545.8311	3910.0233	6503.4440
CCT	6489.0000	3014.0000	6077.0000	1846.0000	12969.0000	3525.0000	3878.0000	6462.0000



Display Slot Movie

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MtStb

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Calibrate

2-Pt

M-Pt

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LUT

Comp

Finalize

PostCal Read

Final Check

CMS


CalMAN
Gamut Saturation Calibration
DEITP
w/ Luminance Error
Datagrid
Summary
DEITP w/Lum Er ↓
Avg 2.99 / 12.5
Max 10.45/ 15.23
Delta L
Avg 4.774
Max 7.398
Delta H
Avg 0.76
Max 2.236
Delta C
Avg 2.1905
Max 7.96
Black 0
White 82.06
Triplet 202, 202, 16
100%
Y tgt 62.778
51.5611
x tgt 0.4193
0.4212
y tgt 0.5053
0.5022
u'v' CIE
Y in cd/m²
tgt = Target
RGB Balance
100%
Red Green Blue
Red 12 9 2
Green 42 25 6
Blue 0 0 27
Cyan 17 9 0
Magenta 0 7 0
Yellow 53 39 33
Reset CMSTint (G/R)
-1
Color
26
Gamut Lum Abs
Gamut Lum Rel
RGB Balance
Chart Mode
Delta C Max 7.96 Avg 2.19
Delta H Max 2.236 Avg 0.76
Delta L Max 7.398 Avg 4.774
For classic CMS set to 75%/100% Only ↓
Display Slot
CAL-DAY
Sweep Level
25% Sweeps
1.61 DEITP
13.84
-17.87 Luminance
-6.31 dL
-1.21 dH
-0.84 dC
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Final Check


CalMAN
3D Color Cube LUT Calibration - Full
DEITP
w/Luminance Error
100 0 0
87.7 0 0
73 0 0
58.4 0 0
44 0 0
29 0 0
14.6 0 0
0 0 0
0 5 10 15 20 25
0 10 20 30 40
Summary
Delta C
2.9 Avg 12.26 Max
Delta H
1.01 Avg 3.14 Max
Delta L
2.33 Avg 4.84 Max
DEITP
Avg 4.78 / 9.99
w/Luminance Error
Max 25 / 20.63
RGB Balance
DEITP
Triplet
235, 16, 16
Y 17.29421
Tgt 21.26567
x 0.63857
Tgt 0.64
y 0.32942
Tgt 0.33
-23.3
3.1
0.6
w/Lumin Err
dC -7.7
dH -0.83
dL -4.61
dE 1.25
/ 14.04
100 0 0
Datagrid
3D LUT Detail Charts
Points 146
Virtual LUT
100 White
0.09774 Black
dE Avg 4.78 / 9.99
dE Max 25 / 20.63
u'v' CIE
Color Bars
Big Comparator
100 0 0 dE 1.25 / 14.04
Red
Green
Blue
Cyan
Magenta
Yellow
White
Ramp
Inner Data Points
Luminance Level Points
8 Points per side, SMPTE (0-100)
Display Slot
CAL-DAY
Selected LUT
0 0 0
14.6 0 0
29 0 0
44 0 0
58.4 0 0
73 0 0
87.7 0 0
100 0 0
Nav Bar
CAL
3dLUT
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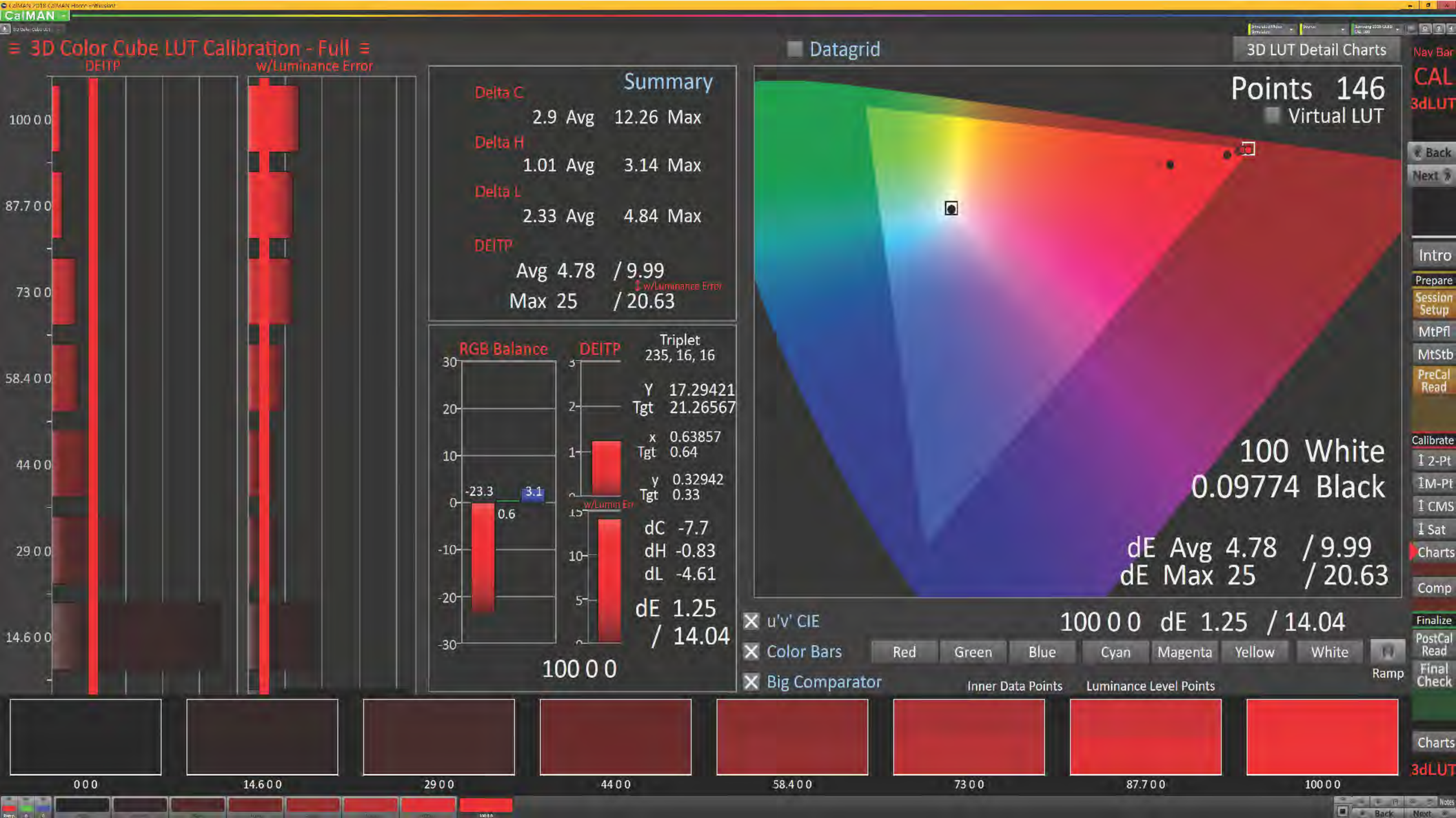
Final Check
Charts
3dLUT


CalMAN
3D Color Cube LUT Calibration - Full
DEITP
w/Luminance Error
100 0 0
87.7 0 0
73 0 0
58.4 0 0
44 0 0
29 0 0
14.6 0 0
Summary
Delta C
2.9 Avg 12.26 Max
Delta H
1.01 Avg 3.14 Max
Delta L
2.33 Avg 4.84 Max
DEITP
Avg 4.78 / 9.99
Max 25 / 20.63
w/Luminance Error
RGB Balance
DEITP
Triplet
235, 16, 16
-23.3
3.1
0.6
w/Lumin Err
Y 17.29421
Tgt 21.26567
x 0.63857
Tgt 0.64
y 0.32942
Tgt 0.33
dC -7.7
dH -0.83
dL -4.61
dE 1.25
/ 14.04
100 0 0
Datagrid
3D LUT Detail Charts
Points 146
Virtual LUT
100 White
0.09774 Black
dE Avg 4.78 / 9.99
dE Max 25 / 20.63
u'v' CIE
Color Bars
Big Comparator
100 0 0 dE 1.25 / 14.04
Red
Green
Blue
Cyan
Magenta
Yellow
White
Ramp
Inner Data Points
Luminance Level Points
0 0 0
14.6 0 0
29 0 0
44 0 0
58.4 0 0
73 0 0
87.7 0 0
100 0 0
Nav Bar
CAL
3dLUT
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3dLUT


CalMAN
3D Color Cube LUT Full Calibration Detail 1
DEITP 2.4 / 14.59
Avg 7.18 / 12.14
Max 21.91 / 18.39
Delta L -4.57
Avg -1.62
Max 4.57
Luminance 17.329
Calibrate
Nav Bar
CAL
3dLUT
Charts
Calib
chrts2
Intro
Prepare
Calibrate
Calib
chrts2
Finalize
CAL
Red
Green
Blue
White
Cyan
Magenta
Yellow
Charts 2
100 0 0
87.7 0 0
73 0 0
58.4 0 0
44 0 0
29 0 0
14.6 0 0
0 0 0
w/ Luminance Error
Ramp
0
0
100 0 0
Notes


CalMAN
3D Color Cube LUT Full Calibration Detail 2
DEITP 2.4 / 14.59
Avg 7.18 / 12.14
Max 21.91 / 18.39
Delta H -0.28
Avg 0.54
Max 1.22
Delta C 8.25
Avg 4.76
Max 8.25
100 0 0
87.7 0 0
73 0 0
58.4 0 0
44 0 0
29 0 0
14.6 0 0
0 0 0
0
10
20
40
-4
-2
2
4
-10
-5
5
w/ Luminance Error
Red
Green
Blue
White
Cyan
Magenta
Yellow
Charts 1
Nav Bar
CAL
3dLUT
Charts
Calib
chrts1
Intro
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Calibrate
Finalize
Ramp
16
16
100 0 0
Notes


CalMAN
Compare Calibrations
Cal 1 Notes
20 Point 5% Step 5-100%
SG Fleshtones
Cal 2 Notes
Show DDC settings & Help
DEITP w/ Luminance Error Avg. 11.37
DEITP w/ Luminance Error Avg. 11.44
DEITP Avg. 1.02
DEITP Avg. 1.01
DEITP Avg. 4.08
DEITP w/ Luminance Error Avg. 10.46
DEITP Avg. 3.77
DEITP w/ Luminance Error Avg. 10.39
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
Cal 1
Cal 2
Grayscale
Grav & Color
STOP
ColorChecker
Clear
Clear
Nav Bar
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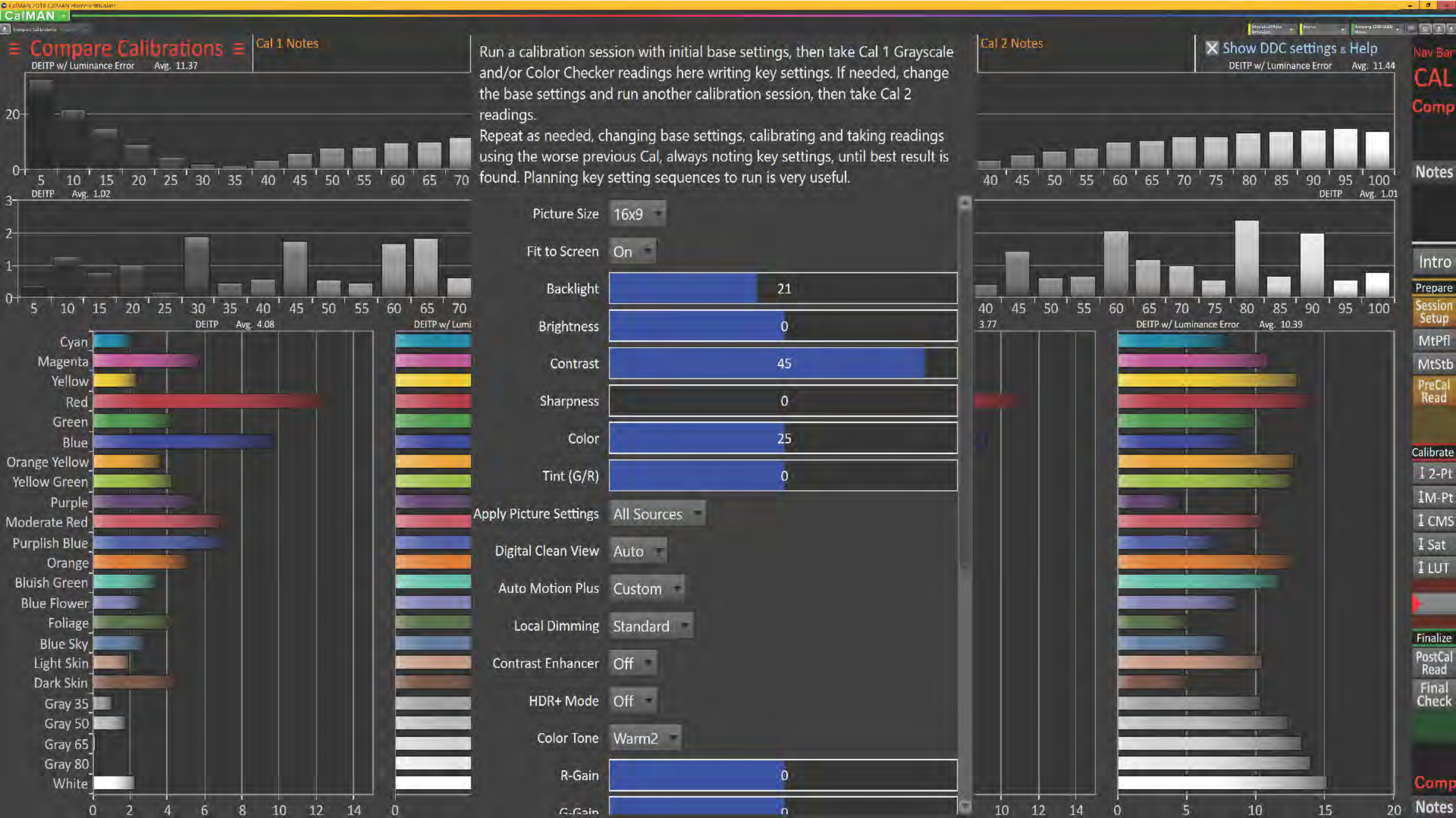
CalMAN
Compare Calibrations
Cal 1 Notes
DEITP w/ Luminance Error Avg. 11.37
DEITP Avg. 1.02
DEITP Avg. 4.08
DEITP w/ Lumi
Run a calibration session with initial base settings, then take Cal 1 Grayscale and/or Color Checker readings here writing key settings. If needed, change the base settings and run another calibration session, then take Cal 2 readings.
Repeat as needed, changing base settings, calibrating and taking readings using the worse previous Cal, always noting key settings, until best result is found. Planning key setting sequences to run is very useful.
Picture Size 16x9
Fit to Screen On
Backlight 21
Brightness 0
Contrast 45
Sharpness 0
Color 25
Tint (G/R) 0
Apply Picture Settings All Sources
Digital Clean View Auto
Auto Motion Plus Custom
Local Dimming Standard
Contrast Enhancer Off
HDR+ Mode Off
Color Tone Warm2
R-Gain 0
G-Gain 0
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
Cal 2 Notes
Show DDC settings & Help
DEITP w/ Luminance Error Avg. 11.44
DEITP Avg. 1.01
3.77
DEITP w/ Luminance Error Avg. 10.39
Nav Bar
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CalMAN
Post-Calibration Readings
2/25/2019 Calibration
Gamma Breakout Tot 2.85 Contrast 834 Black 0.09809 White 81.82 cd/m²
100
1 Grayscale
21 Point 5% step 0-100%
Avg 0.95 / 11.24
Max 2.19 / 32.93
100 DEITP 0.85 / 14.41 w/ Lumin Error
Cyan
u'v' CIE
4 Color Checker
DEITP 1.23 Avg 4.1 Max 12.25
w/ Lumin Err 8.07 Avg 10.5 Max 15.21
Cyan
Add Custom Color Set
SG Fleshtones
Select Colors
Comparator
Populate CMS for HT report
2 Saturation Sweeps
BT.709 25% Sweeps
Avg 3.87 / 10.77
Max 12.47 / 15.25
100% w/Lumin Err 12.48
100% DEITP 0.9
100%
3 Gamut Luminance
4 Point 25% step 25-100%
Avg 2.83 / 9.91
Max 14.44 / 14.94 100 w/ Lumin Err 14.91
100 DEITP 0.77
100
LUT Calibration
Points 209
Avg DEITP 0
Max DEITP 0
Nav Bar
FNL
PstCal Read
Back
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Final Check
PstCal
Cal Night 100 nits
Post-Cal Readings
Contrast
Brightness
Backlight
Setup Values
TV Gamma
Color
Tint
Red Green Blue
Gain
Cut
Notes
Use [···] mid-screen or below to read all series or select one from the individual series above

CalMAN

Session Final Check

2/25/2019 Calibration

AV Mode - Cal Night 100 nits

Contrast Verification

Data Points: select Clipping or Clipping with Peak White: Clipping with Peak White

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

Gamma Level Verification

Data Points: select a full set of grayscale points, e.g. 11: Clipping with Peak White

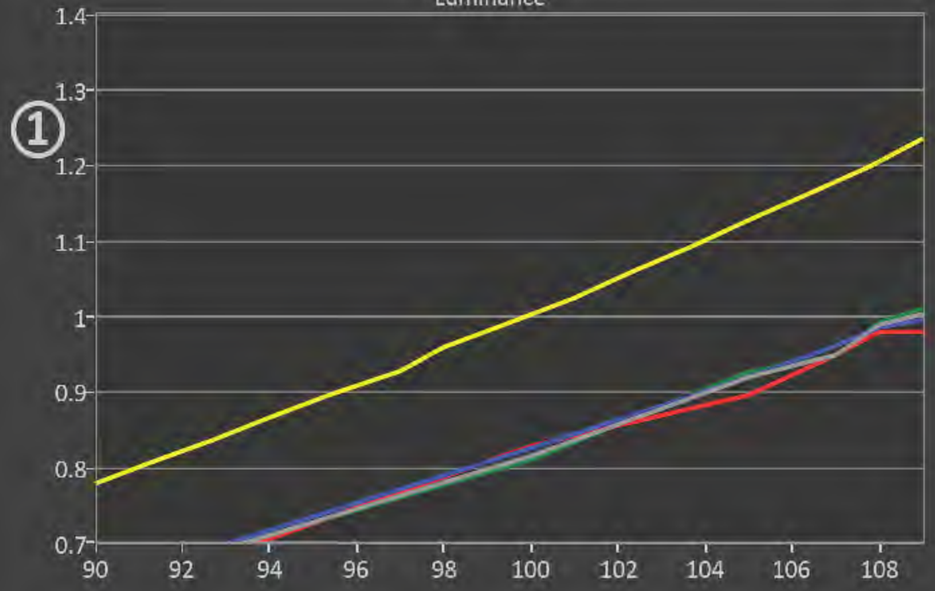
② Check / adjust the gamma level across the full grayscale. Use the Backlight, Brightness, Contrast and Gamma controls to make this adjustment.

Post-Calibration Summary DEITP

Grayscale dE	Avg	0.95	Saturation dE	Avg	3.87
	Max	2.19		Max	12.47
Luminance dE	Avg	0.75	Color Checker dE	Avg	4.1
	Max	2.79		Max	12.25
3D Color LUT dE	Avg	0	Gamma Target		2.4
	Max	0	Total		2.85
White	81.82	cd/m²	CCT Target		6503
Black	0.09809		Avg		6496
Contrast Ratio	834				

LUT values come from Calibration layout, all others from Post-Calibration layout

Luminance

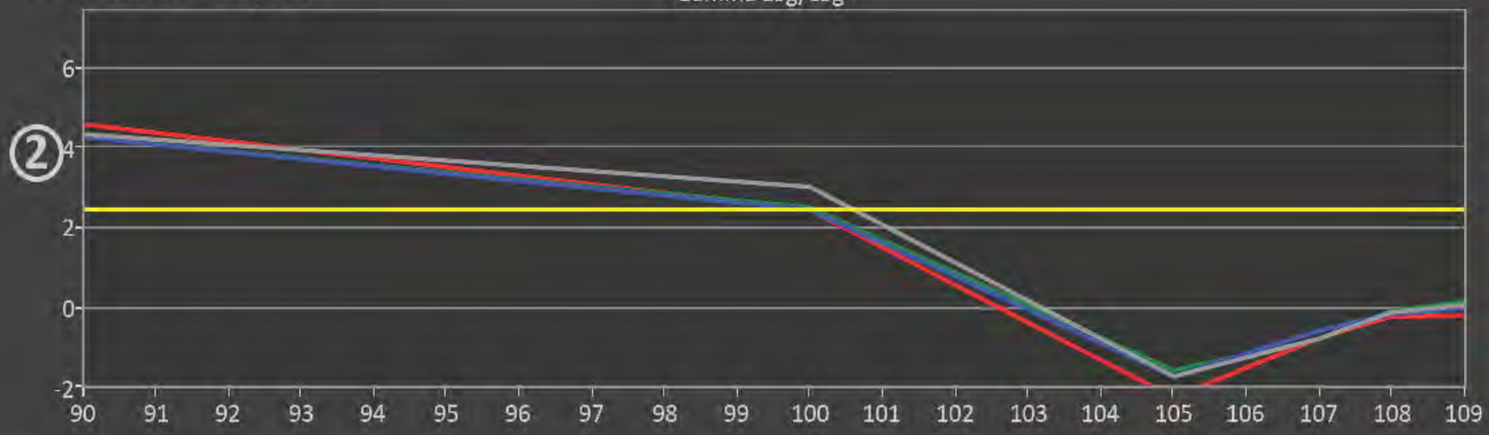


100

Gamma 2.95

23.70567 cd/m²

Gamma Log/Log



Post-Calibration Notes

Notes

Save

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

Nav Bar

FNL

Final Check

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Final