

Get Started With Display P3

Display P3 Imagery in Your App

Session 821

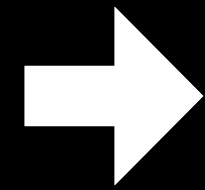
Oscar Waldén, Apple/Designer

Color Management

Color Management



Original Asset

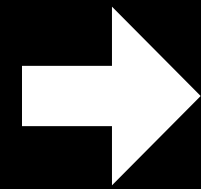


Customers' Device

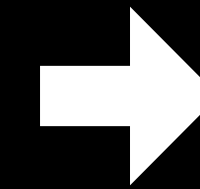
Color Management



Original Asset



Color Management
on macOS & iOS



Customers' Device

What is Display P3?

What is Display P3?

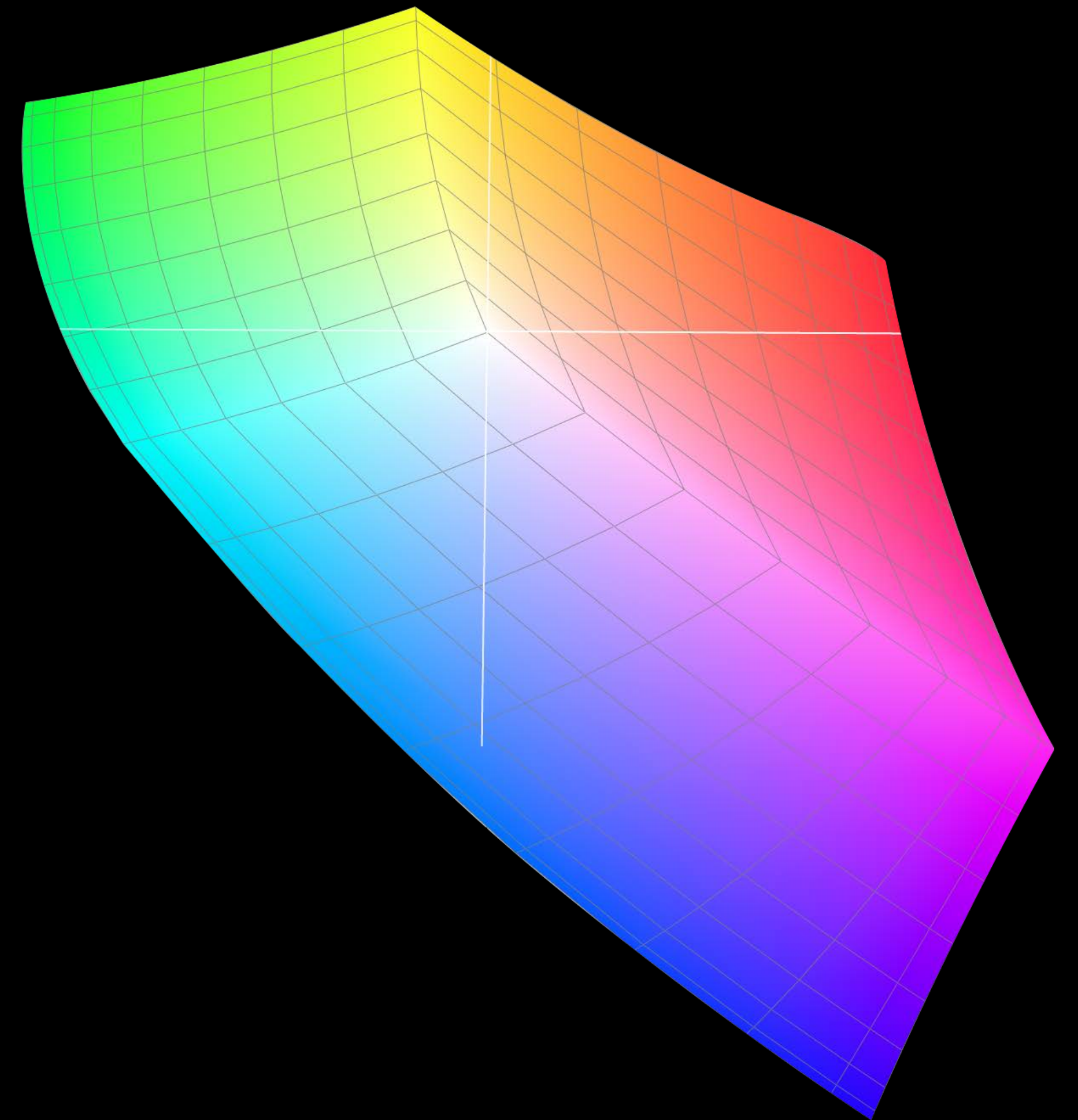
Color space within the RGB color model

25% larger than sRGB

A wide gamut color space

Color depth - 16 bits/channel

Why Display P3?



What is Display P3?

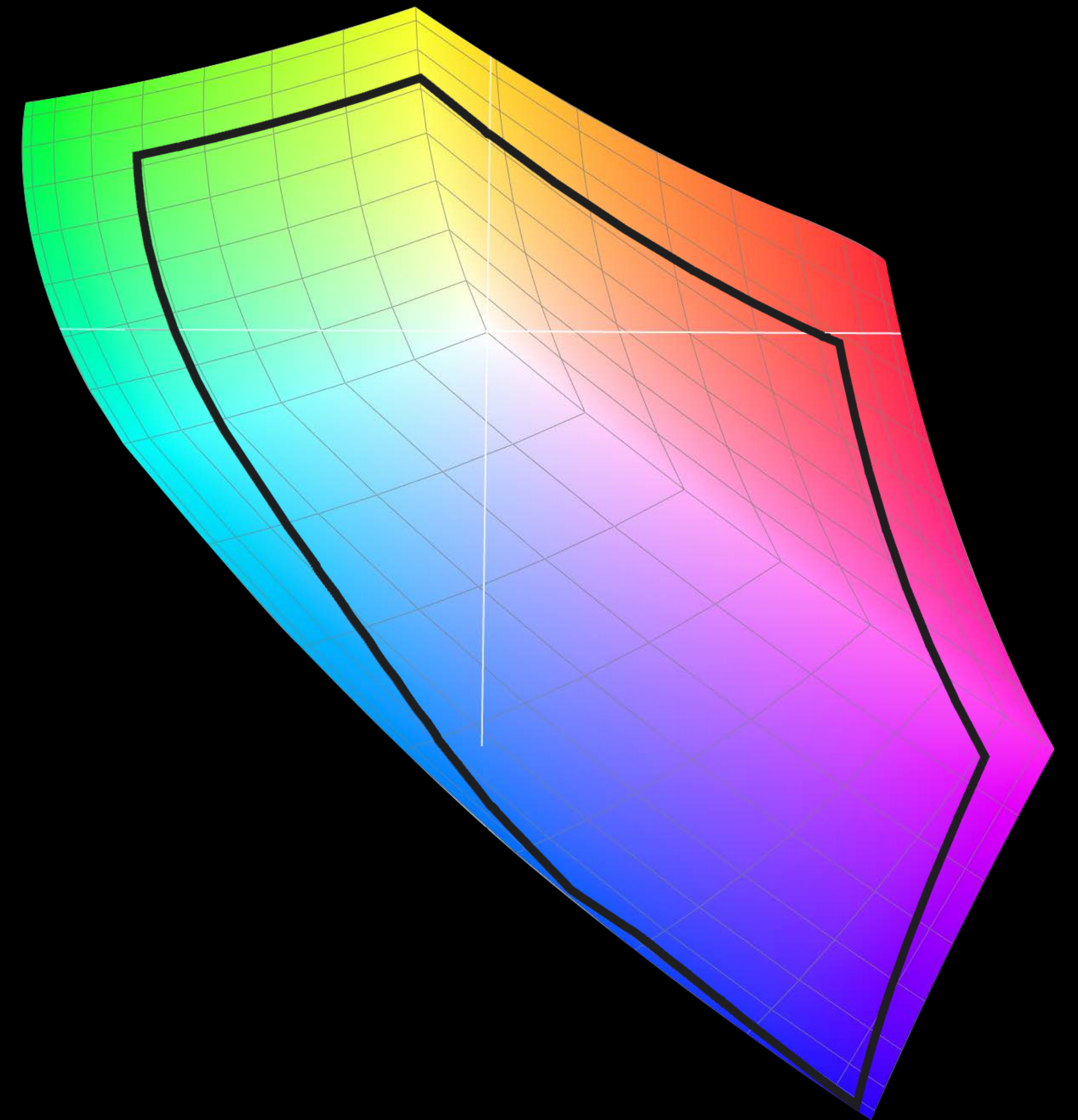
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Why Display P3?



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Why Display P3?



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Why Display P3?

Color Depth - Comparison

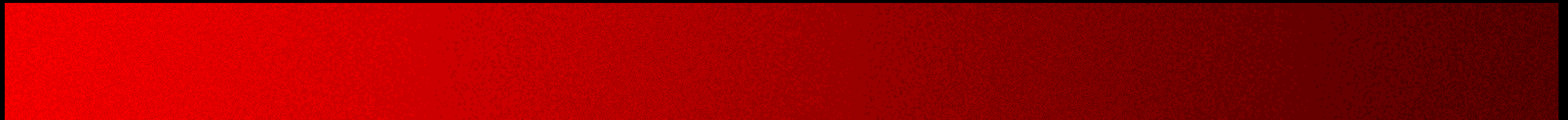


sRGB 8 Bits/Channel

Color Depth - Comparison



sRGB 8 Bits/Channel

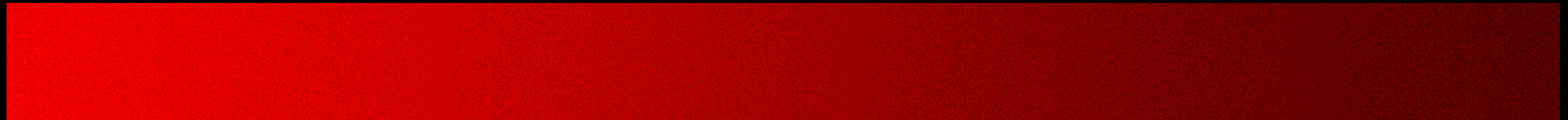


sRGB 8 Bits/Channel with dithering

Color Depth - Comparison



sRGB 8 Bits/Channel



sRGB 8 Bits/Channel with dithering



Display P3 16 Bits/Channel

What is Display P3?

Color space within the RGB color model

25% larger than sRGB

A wide gamut color space

Color depth - 16 bits/channel

Why Display P3?

sRGB Projection System

We Need to Talk..

Who Can See Display P3 Images?









Wide gamut equipment

Display P3 Example









sRGB

Display P3

Display P3 Workflow

Display P3 Workflow in Photoshop

New Asset

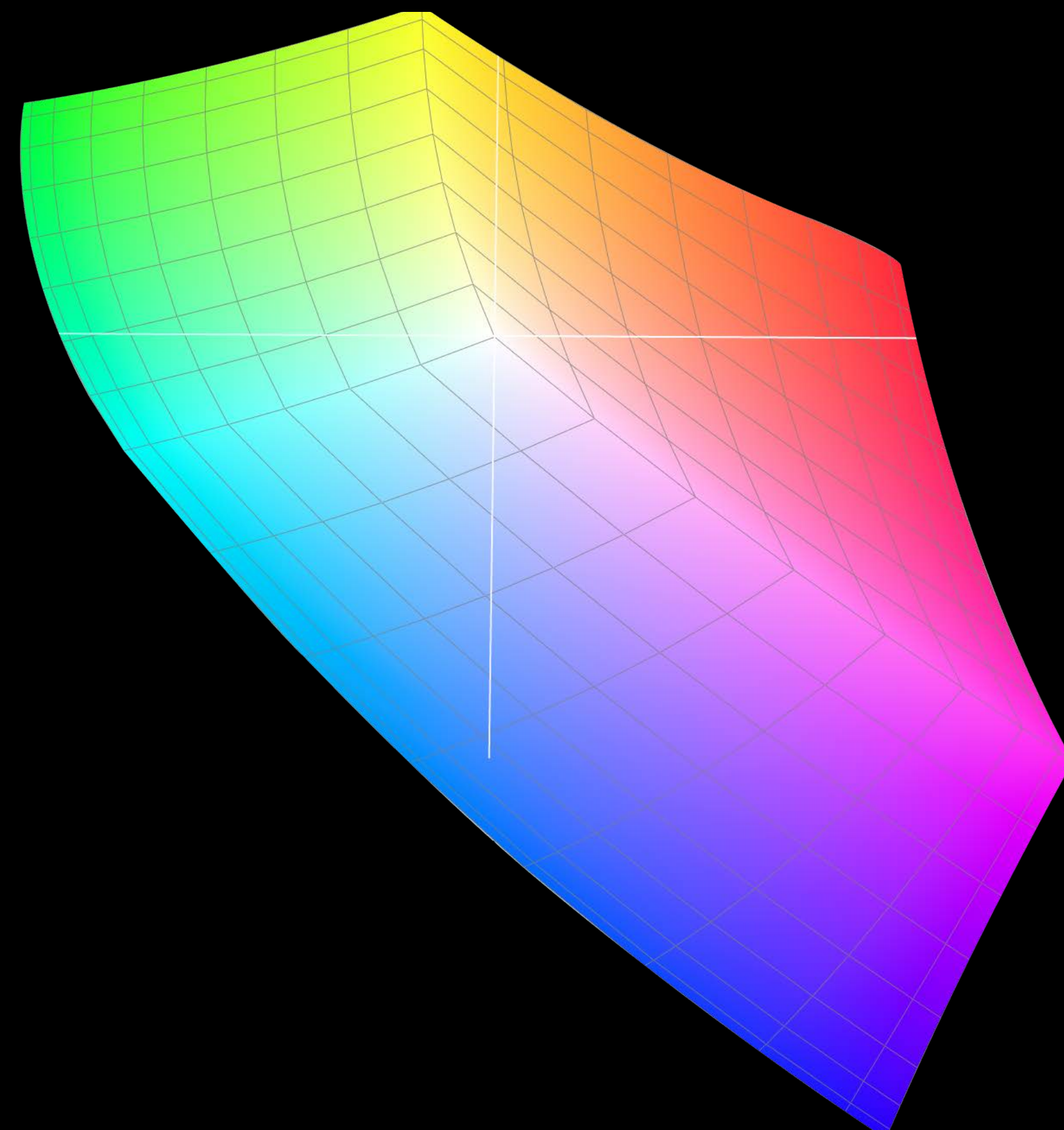
Display P3 color profile

Color depth

Save As

RAW

Asset source



Display P3 Workflow in Photoshop

New Asset

Display P3 color profile

Color depth

Save As

RAW

Asset source

New

Name:

Document Type:

Size:

Width:

Height:

Resolution:

Color Mode:

Background Contents:

Advanced

Color Profile:

Pixel Aspect Ratio:

Image Size:
6.00M

OK
Cancel
Save Preset...
Delete Preset...

New

Name:

Document Type:

Size:

Width:

Height:

Resolution:

Color Mode:

Background Contents:

Advanced

Color Profile:

Pixel Aspect Ratio:

OK

Cancel

Save Preset...

Delete Preset...

Image Size:
6.00M

Display P3 Workflow in Photoshop

New Asset

Display P3 color profile

Color depth

Save As

RAW

Asset source

New

Name:

Document Type:

Size:

Width:

Height:

Resolution:

Color Mode:

Background Contents:

Advanced

Color Profile:

Pixel Aspect Ratio:

Image Size:
6.00M

OK

Cancel

Save Preset...

Delete Preset...

New

Name:

Document Type:

Size:

Width:

Height:

Resolution:

Color Mode:

Background Contents:

Advanced

Color Profile:

Pixel Aspect Ratio:

Image Size:
6.00M

OK
Cancel
Save Preset...
Delete Preset...

Display P3 Workflow in Photoshop

New Asset

Display P3 color profile

Color depth

Save As

RAW

Asset source

Save As

Save As: ^

Tags:

< >

Desktop

Name	Date Modified	Size	Kind

Format:

Save: As a Copy Notes
 Alpha Channels Spot Colors
 Layers

Color: Use Proof Setup: Working CMYK
 Embed Color Profile: Display P3

Save As

Save As: ^

Tags:

< > Desktop

Name	Date Modified	Size	Kind
------	---------------	------	------

Format:

Save: As a Copy Notes
 Alpha Channels Spot Colors
 Layers

Color: Use Proof Setup: Working CMYK
 Embed Color Profile: Display P3

New Folder Cancel Save

Display P3 Workflow in Photoshop

New Asset

Display P3 color profile

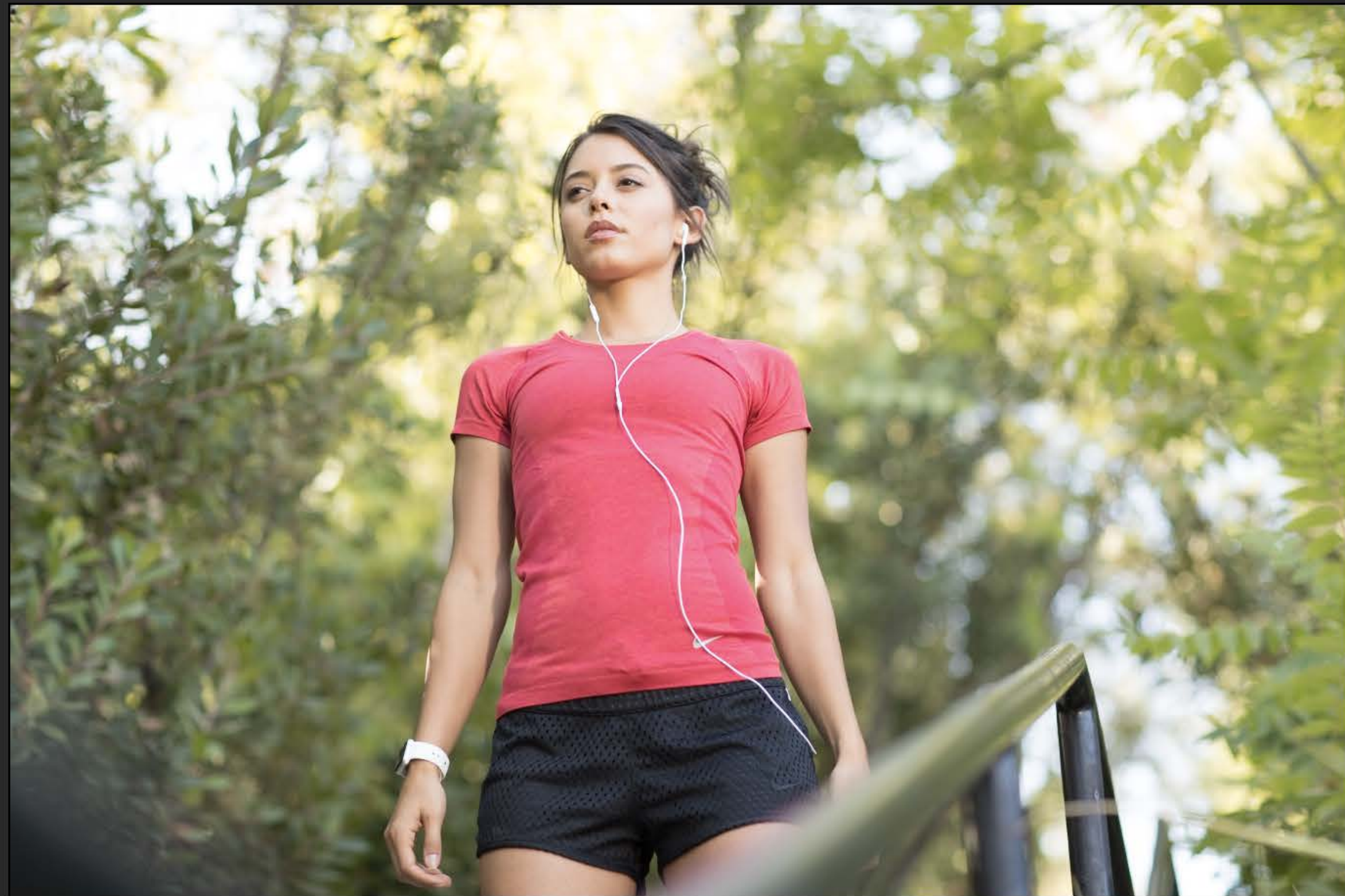
Color depth

Save As

RAW

Asset source

Camera Raw 9.10 - Canon EOS-1D X Mark II



Runner.CR2

25%

SRGB IEC61966-2.1; 8 bit; 5472 by 3648 (20.0MP); 300 ppi

Save Image... Open Image Cancel Done

Basic

White Balance: As Shot

Temperature: 6550

Tint: +18

Exposure: 0.00

Contrast: 0

Highlights: 0

Shadows: 0

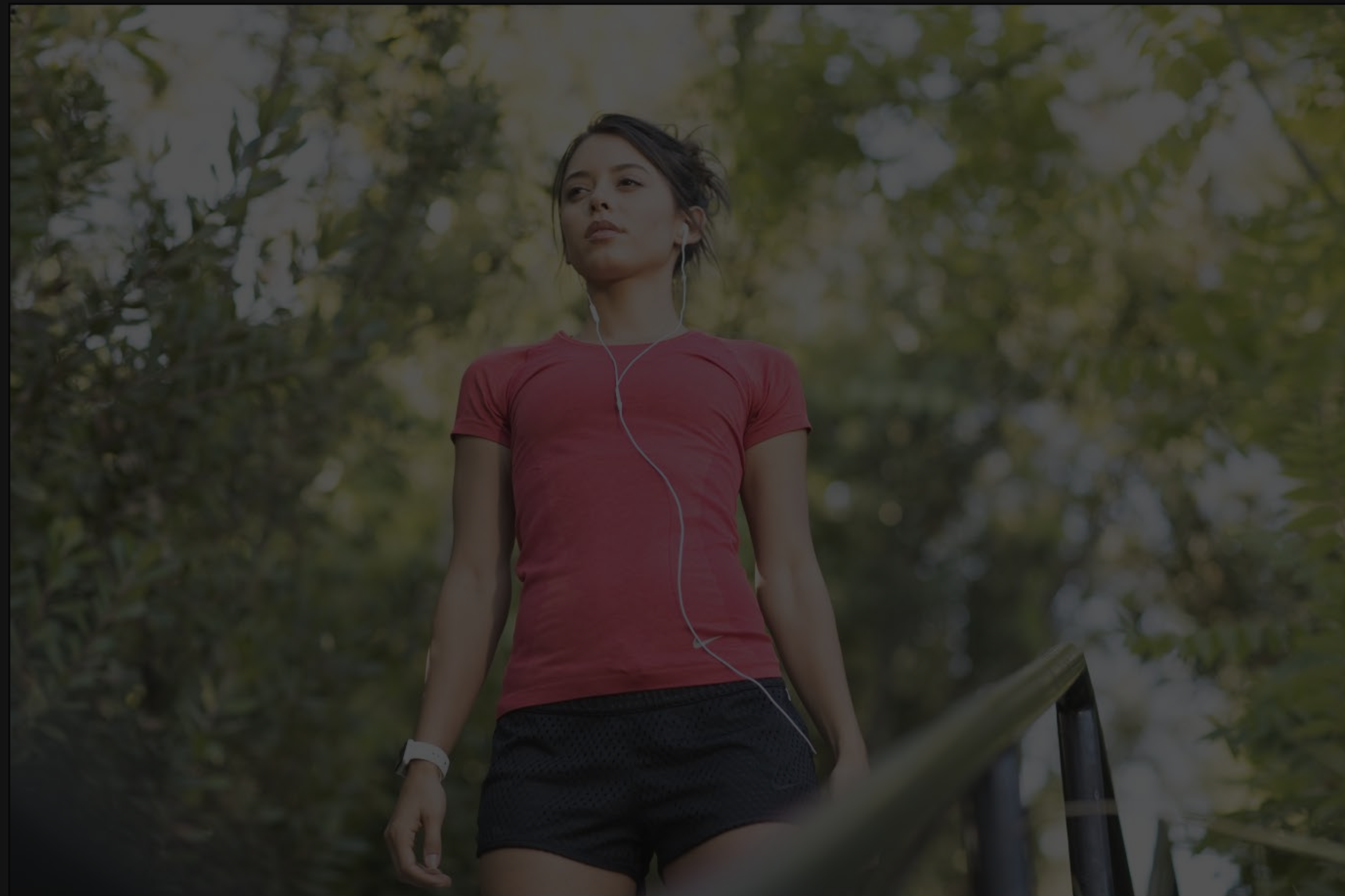
Whites: 0

Blacks: 0

R: 168
G: 167
B: 126

f/2.2 1/1250 s
ISO 800 85 mm

Camera Raw 9.10 - Canon EOS-1D X Mark II



Runner.CR2

25%

SRGB IEC61966-2.1; 8 bit; 5472 by 3648 (20.0MP); 300 ppi

Save Image... Open Image Cancel Done

White Balance: As Shot

Temperature 6550

Tint +18

Exposure 0.00

Contrast 0

Highlights 0

Shadows 0

Whites 0

Blacks 0

R: 168
G: 167
B: 126

f/2.2 1/1250 s
ISO 800 85 mm

Display P3 Workflow in Photoshop

New Asset

Display P3 color profile

Color depth

Save As

RAW

Asset source

Display P3 Workflow

Existing Assets

Convert to Display P3 color profile



Convert to Profile

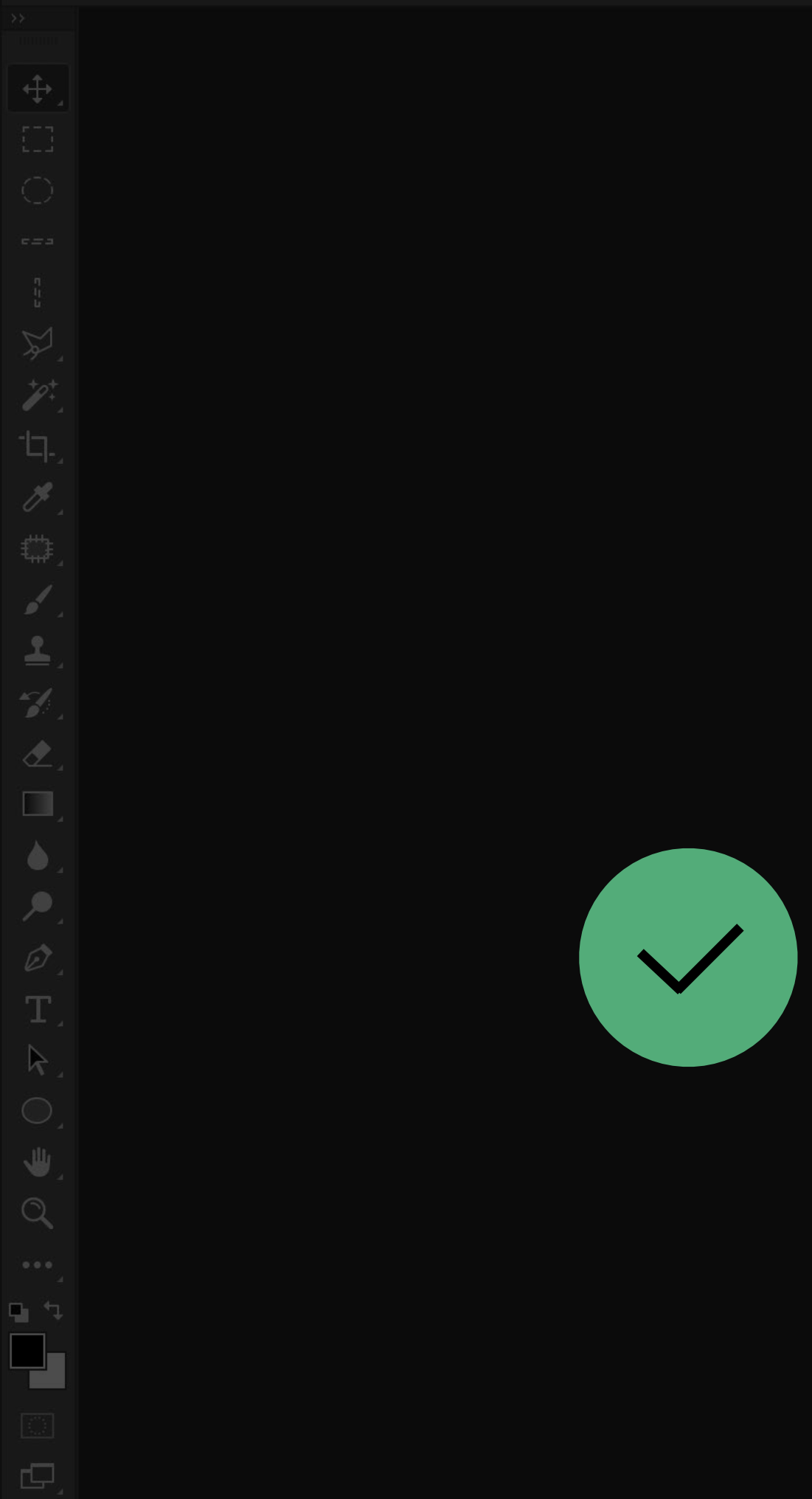
Source Space
Profile: Display

Destination Space
Profile: Display P3

Conversion Options
Engine: Adobe (ACE)
Intent: Relative Colorimetric

Use Black Point Compensation
 Use Dither
 Flatten Image to Preserve Appearance

OK
Cancel
 Preview
Advanced



Convert to Profile

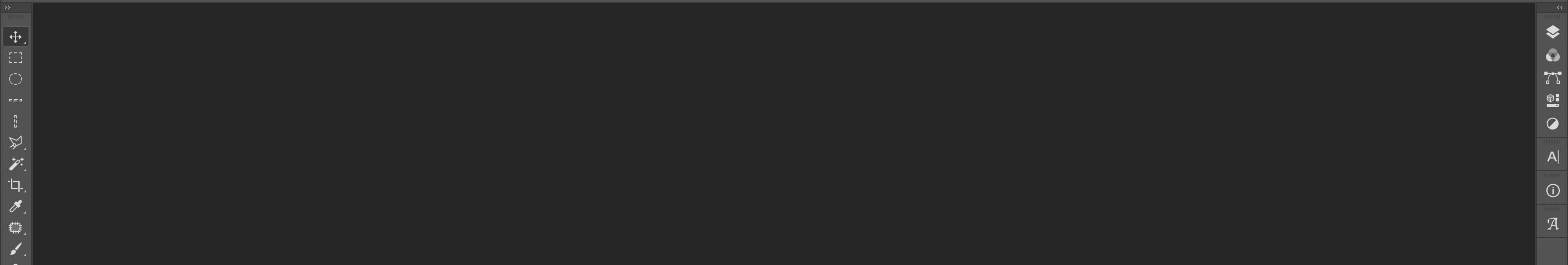
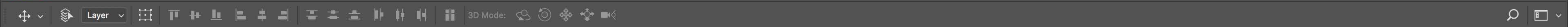
Source Space
Profile: Display

Destination Space
Profile: **Display P3**

Conversion Options
Engine: Adobe (ACE)
Intent: Relative Colorimetric

- Use Black Point Compensation
- Use Dither
- Flatten Image to Preserve Appearance

OK
Cancel
 Preview
Advanced



Assign Profile

Assign Profile:

Don't Color Manage This Document

Working RGB: sRGB IEC61966-2.1

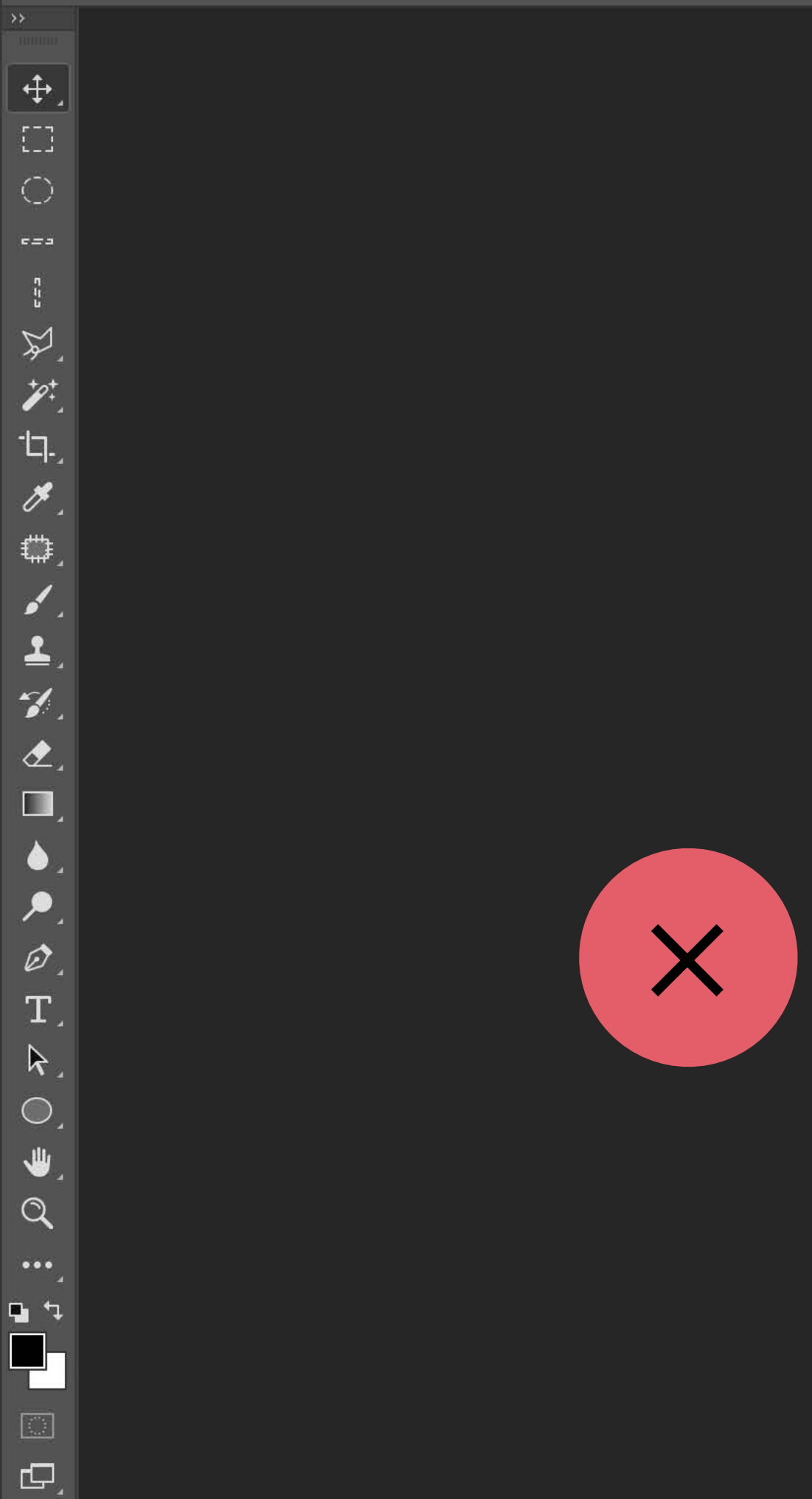
Profile: Display P3

Preview

OK

Cancel

The 'Assign Profile' dialog box is centered on the screen. It has a title bar with the text 'Assign Profile'. Below the title bar, there is a section labeled 'Assign Profile:' containing three radio button options. The first option is 'Don't Color Manage This Document', the second is 'Working RGB: sRGB IEC61966-2.1', and the third is 'Profile: Display P3', which is selected. To the right of these options are three buttons: 'OK', 'Cancel', and 'Preview'. The 'Preview' button has a checked checkbox next to it.



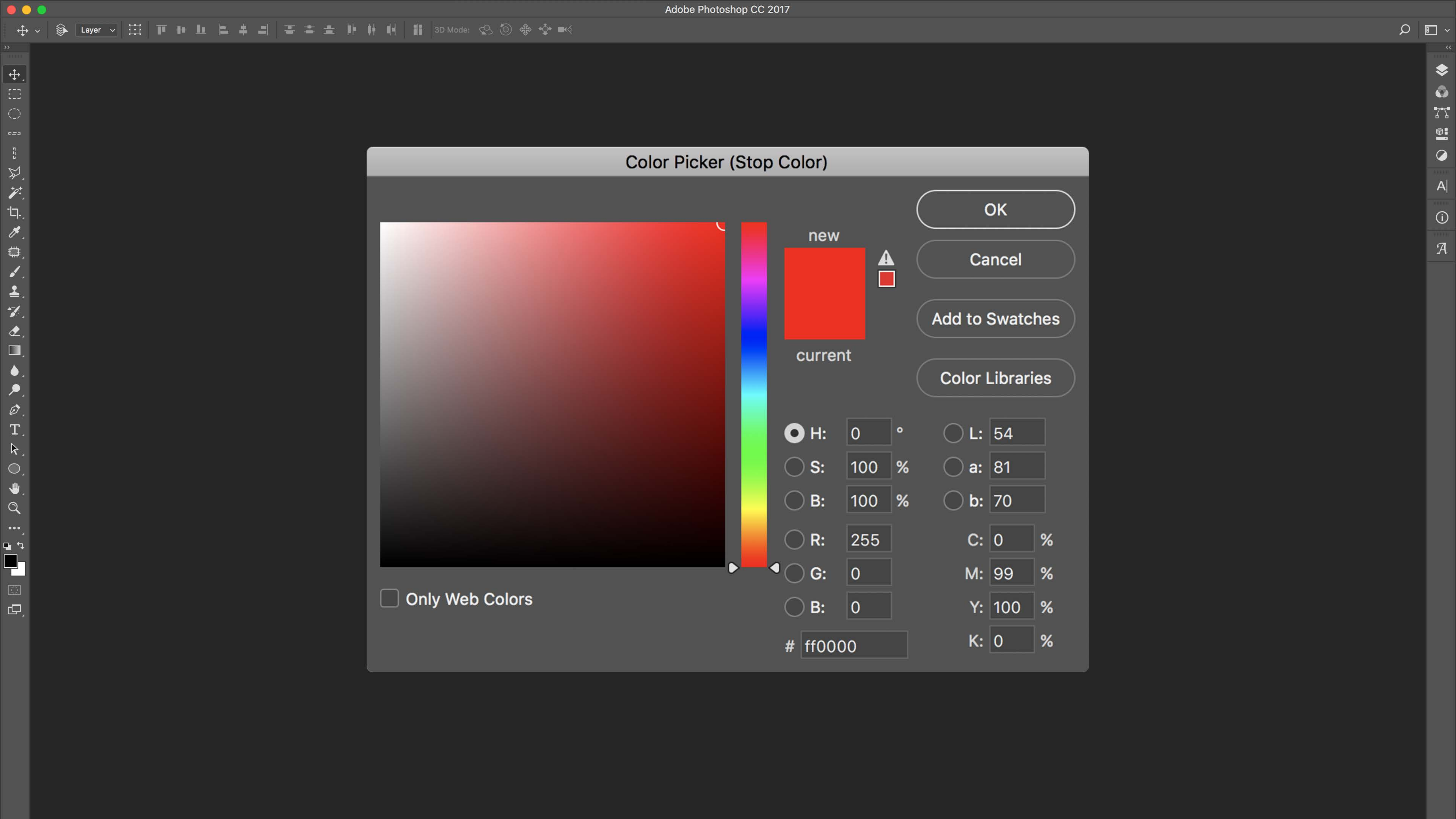
Assign Profile

Assign Profile:

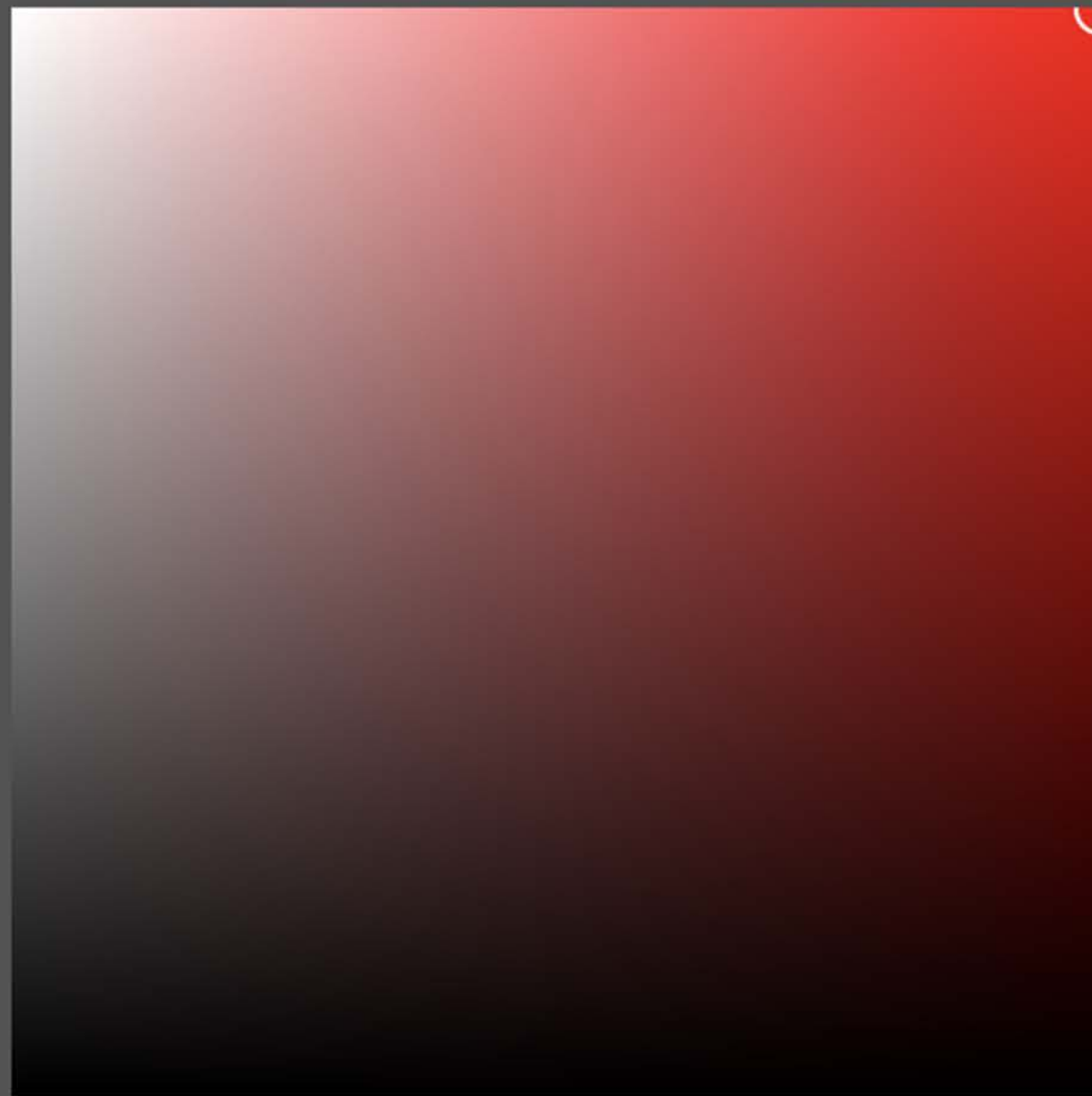
- Don't Color Manage This Document
- Working RGB: sRGB IEC61966-2.1
- Profile: Display P3

Preview







Color Picker (Stop Color)



new



current



H: 0 °

S: 100 %

B: 100 %

R: 255

G: 0

B: 0

ff0000

L: 54

a: 81

b: 70

C: 0 %

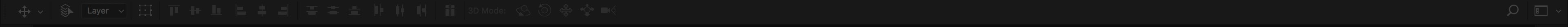
M: 99 %

Y: 100 %




K: 0 %

Only Web Colors

- OK
- Cancel
- Add to Swatches
- Color Libraries



Color Picker (Stop Color)

new   

current

H: ° L:

S: % a:

B: % b:

R: C: %

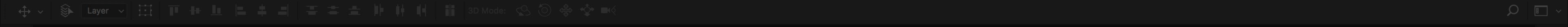
G: M: %

B: Y: %




K: %

Only Web Colors

OK
Cancel
Add to Swatches
Color Libraries



Color Picker (Stop Color)

new   

current

H: 0 ° L: 54
 S: 100 % a: 81
 B: 100 % b: 70
 R: 255 C: 0 %
 G: 0 M: 99 %
 B: 0 Y: 100 %
ff0000 K: 0 %

Only Web Colors

OK
Cancel
Add to Swatches
Color Libraries



Color Picker (Stop Color)

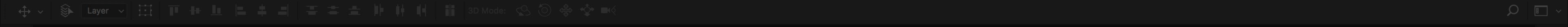
Only Web Colors

new
[Color swatch] [Warning icon] [3D icon]

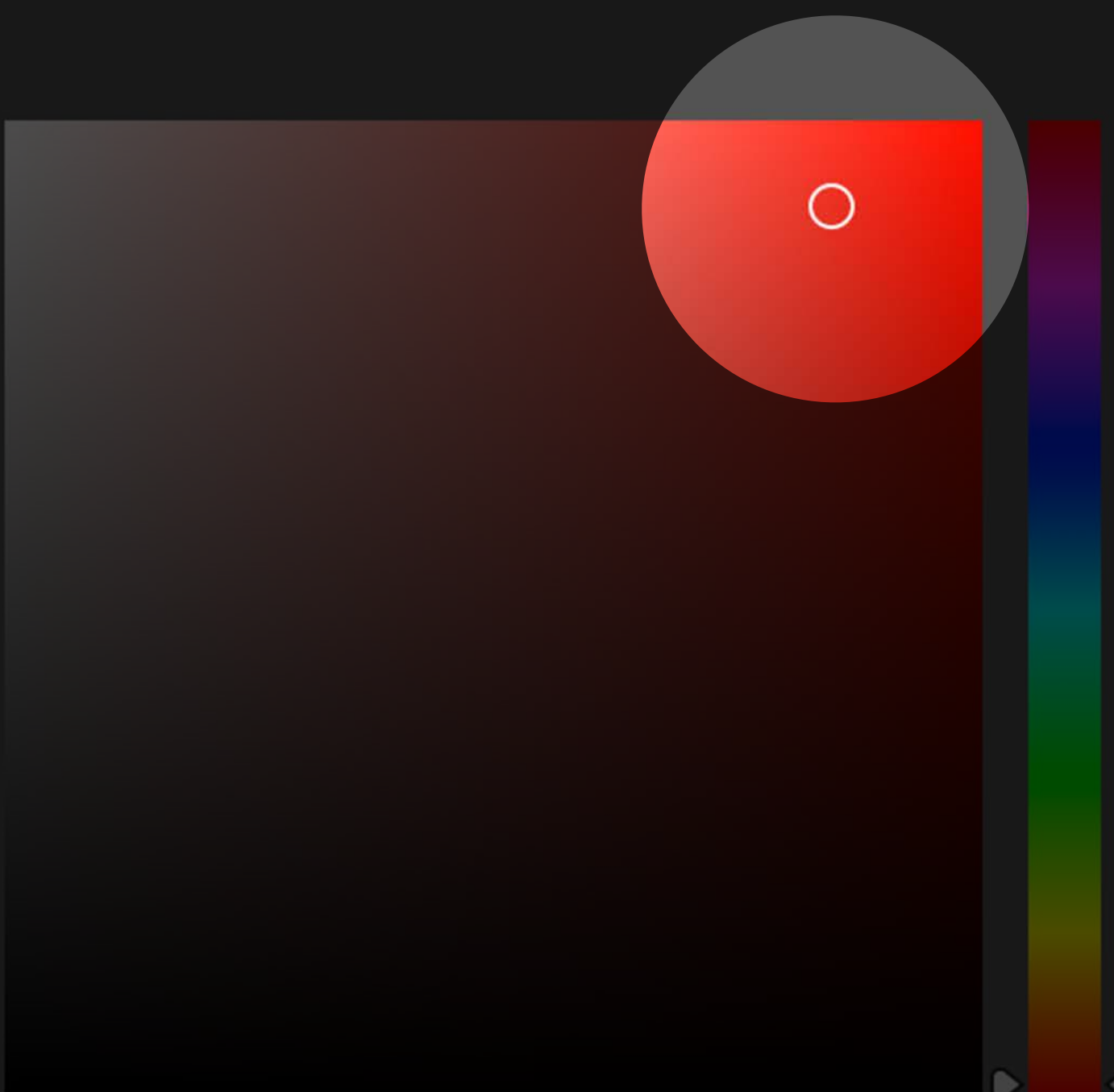
current
[Color swatch]

H: 5 ° L: 54
 S: 85 % a: 81
 B: 92 % b: 70
 R: 234 C: 0 %
 G: 51 M: 99 %
 B: 35 Y: 100 %
ea3323 K: 0 %


Buttons: OK, Cancel, Add to Swatches, Color Libraries





Color Picker (Stop Color)



new



current



H: 5 ° L: 54

S: 85 % a: 81

B: 92 % b: 70

R: 234 C: 0 %

G: 51 M: 99 %

B: 35 Y: 100 %

ea3323 K: 0 %

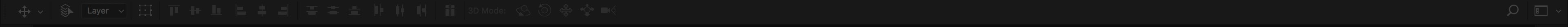
Only Web Colors

OK

Cancel

Add to Swatches

Color Libraries



Color Picker (Stop Color)

new

current

OK

Cancel

Add to Swatches

Color Libraries

Only Web Colors

H: 5° S: 85% B: 92%

L: 54 a: 81 b: 70

R: 234 G: 51 B: 35

C: 0% M: 99% Y: 100% K: 0%

ea3323

Detailed description: The image shows the 'Color Picker (Stop Color)' dialog box in Adobe Photoshop. It features a large color field on the left with a white circle indicating the selected color. To the right of the field is a vertical color bar. Further right are two color swatches labeled 'new' and 'current', both showing the selected red color. Below these are several color models: HSB (Hue, Saturation, Brightness), Lab (Lightness, a, b), RGB (Red, Green, Blue), and CMYK (Cyan, Magenta, Yellow, Black). The HSB model is selected with a radio button. The RGB values are R: 234, G: 51, and B: 35. The CMYK values are C: 0%, M: 99%, Y: 100%, and K: 0%. At the bottom, the hex code #ea3323 is displayed. The dialog also includes 'OK', 'Cancel', 'Add to Swatches', and 'Color Libraries' buttons, and an 'Only Web Colors' checkbox.

Should You Convert To Display P3?

WILDFULNESS





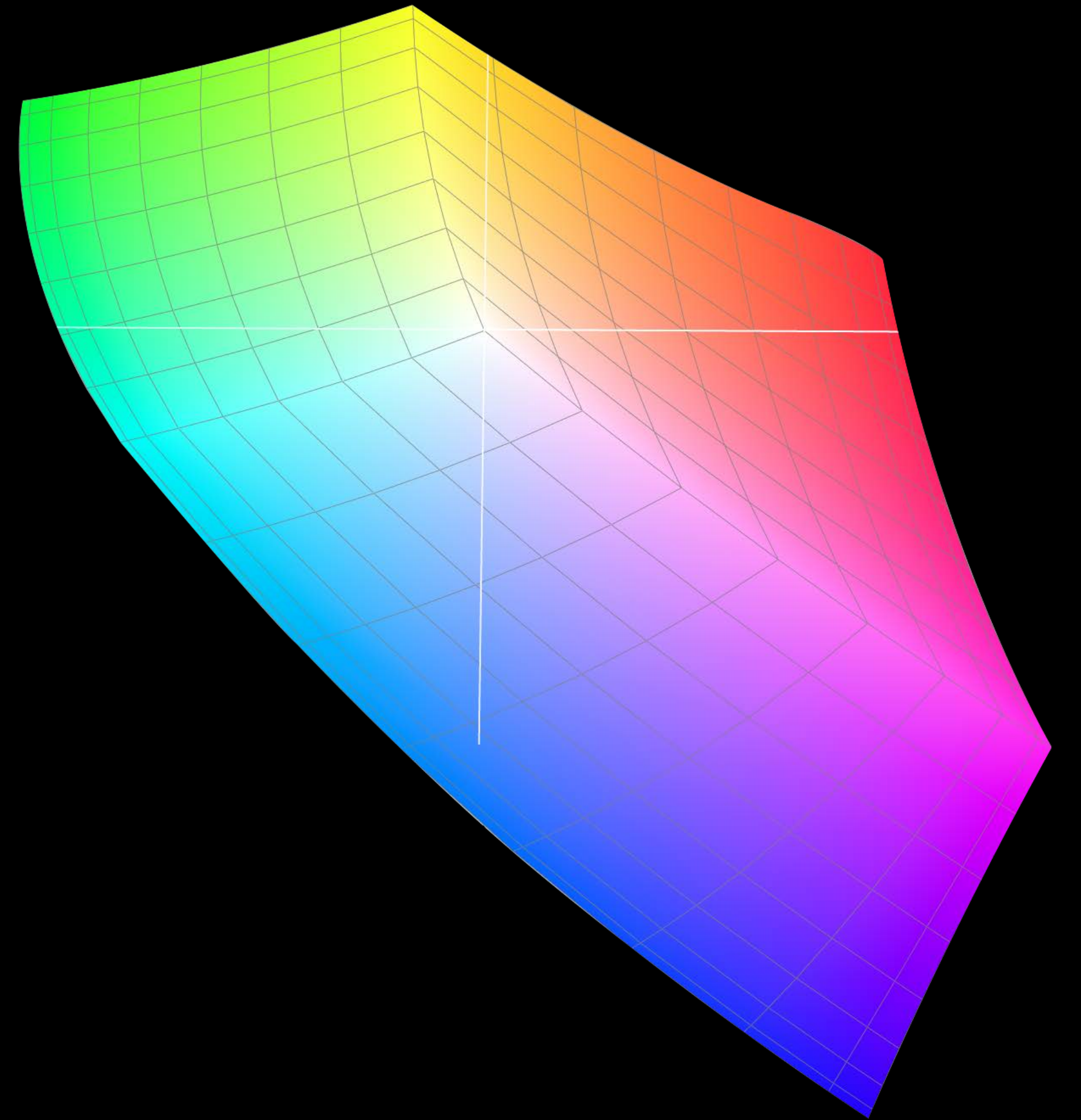




In Conclusion

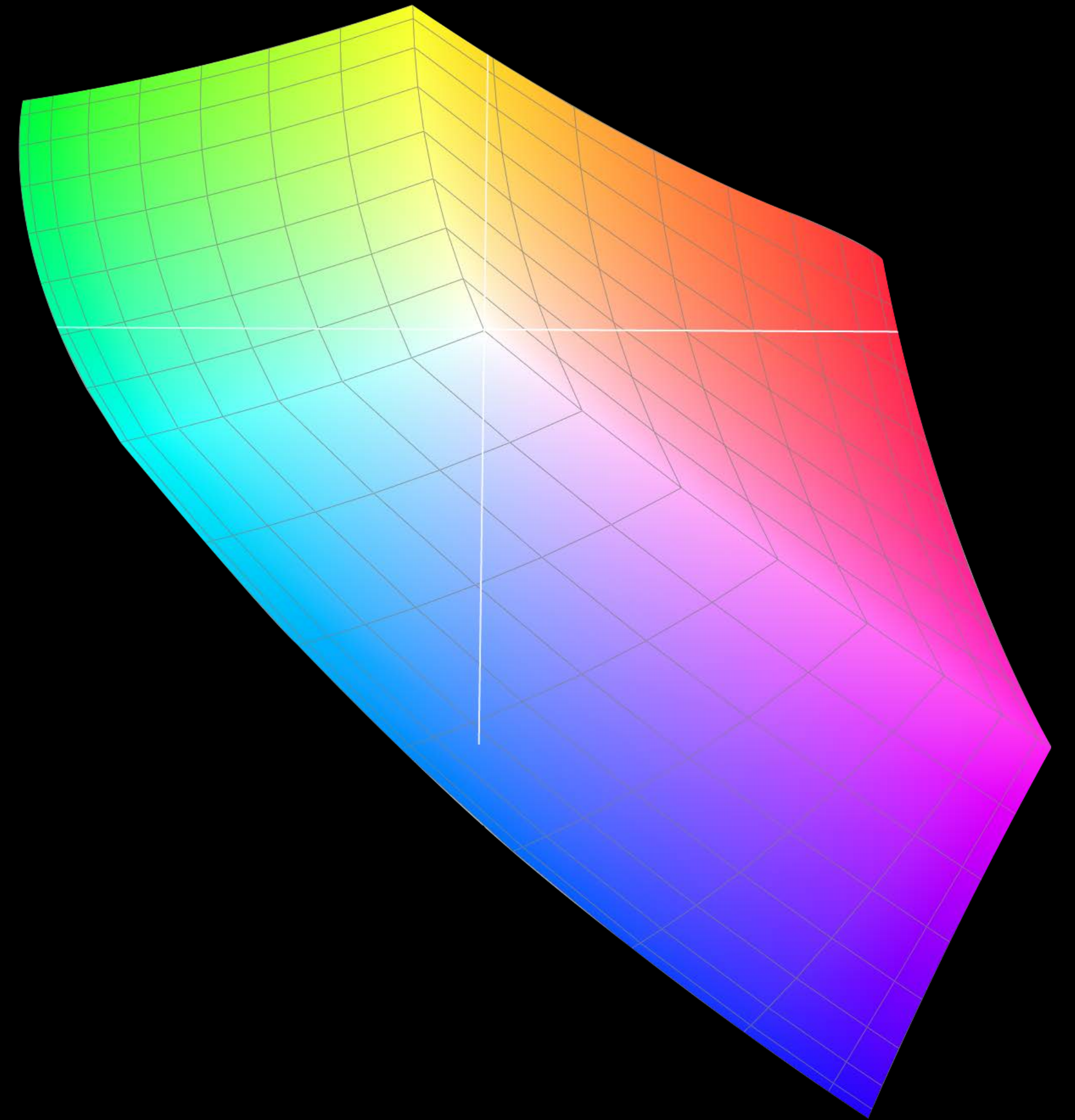
In Conclusion

Display P3 color space and profile



In Conclusion

Display P3 color space and profile
25% larger color space vs. sRGB

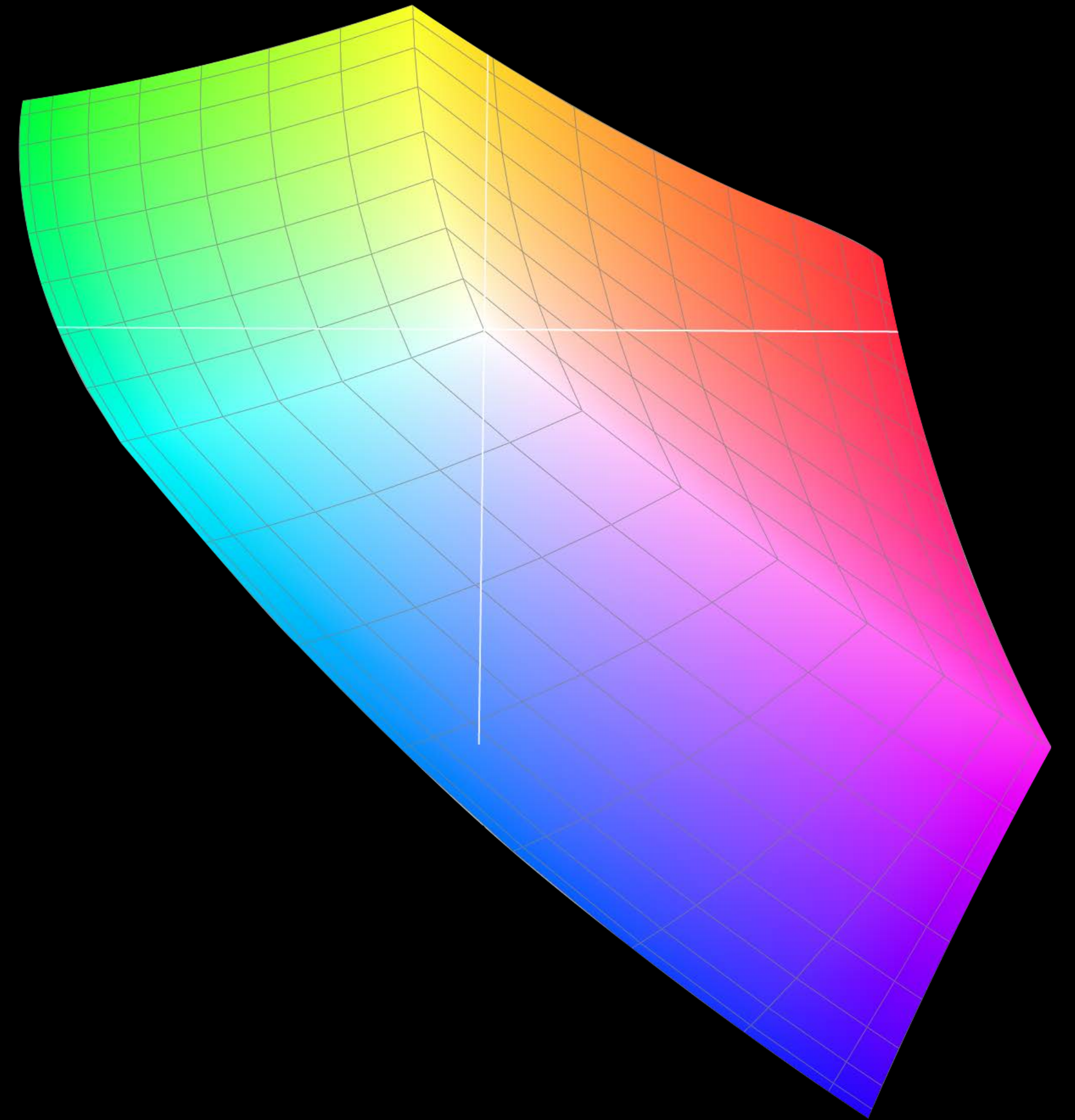


In Conclusion

Display P3 color space and profile

25% larger color space vs. sRGB

In users' hands today



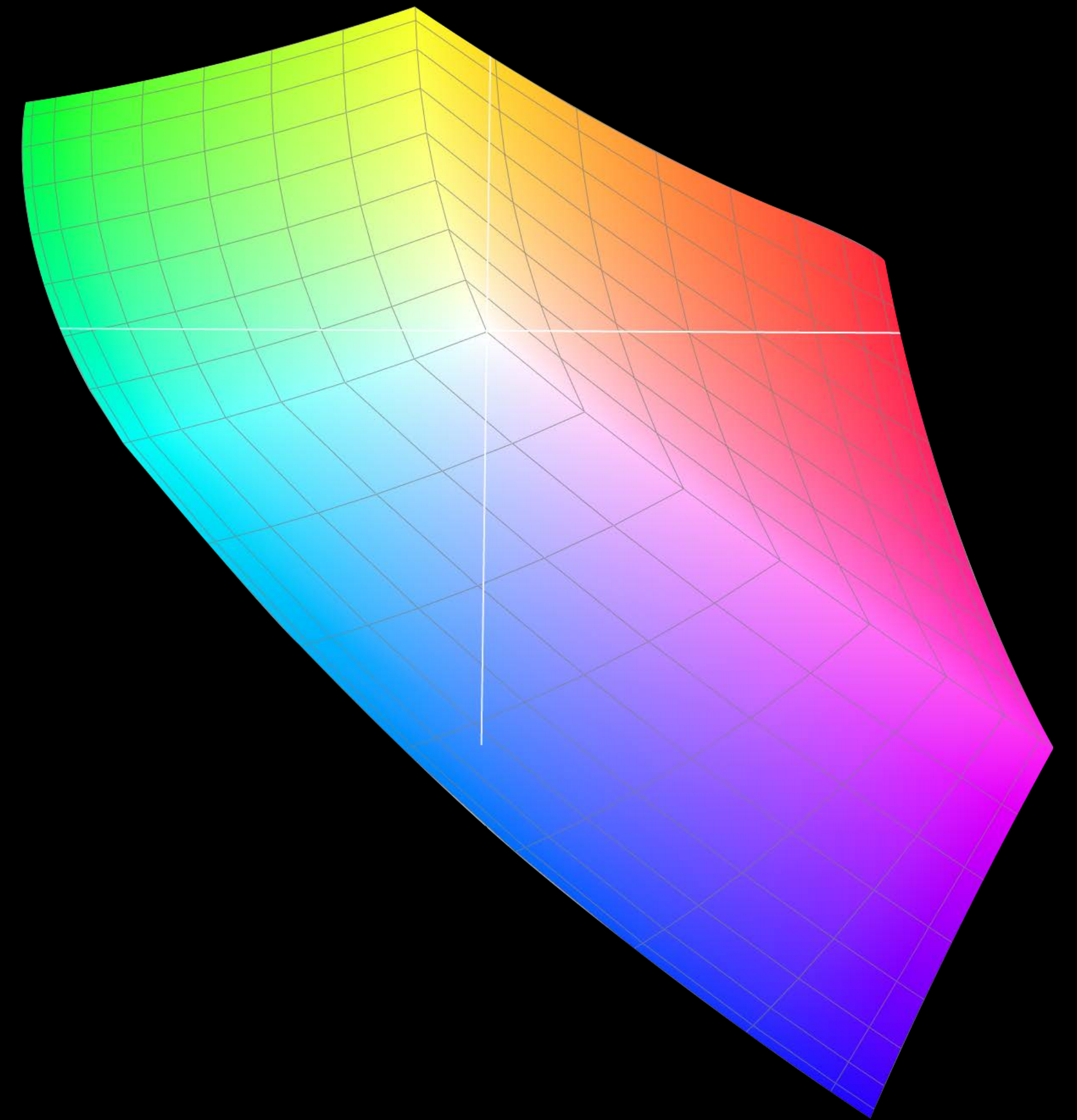
In Conclusion

Display P3 color space and profile

25% larger color space vs. sRGB

In users' hands today

Display P3 workflow



In Conclusion

Display P3 color space and profile

25% larger color space vs. sRGB

In users' hands today

Display P3 workflow

Thoughtful usage

