

George Atkins gave us a talk on 22nd June 2010 about Colour spaces and other related things. Here is a collection of some of the charts that George used that he thought would be useful as references.

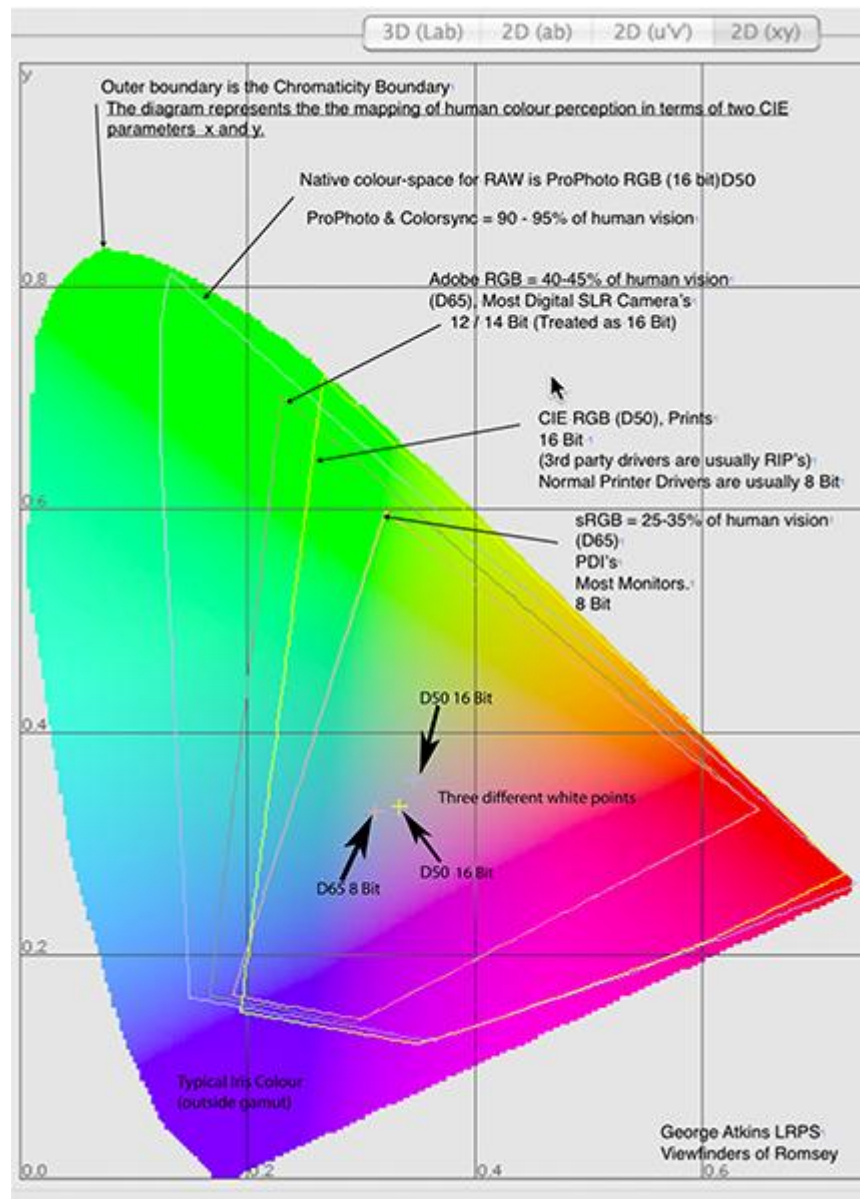
Here is a copy of the Chromaticity chart.

Of the three different white points, two are the same but the gamuts are different (remember inflating the balloon to a larger gamut, the white point point has to move x,y).

The irregular four sided shape in the middle represents the range of colours that the sRGB profile encompasses. As can be seen it is the smallest profile of all but it is the one used by the SPF and indeed the PAgB as the standard to be used for projected digital images.

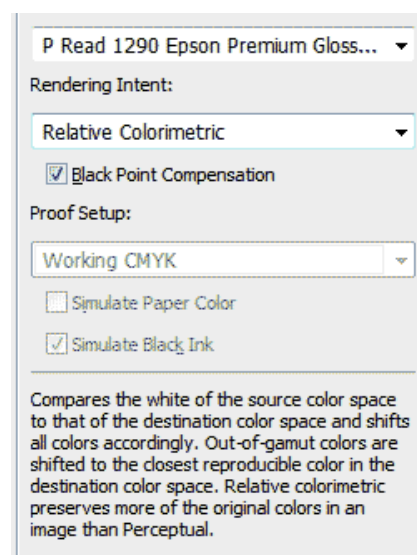
George argued that in time this will be superseded by the profile labelled as Adobe RGB.

Also notice that the largest profile of all is the RAW one and shows one reason why this is such a good profile to use. It sort of future proofs your images as and when the standards improve.

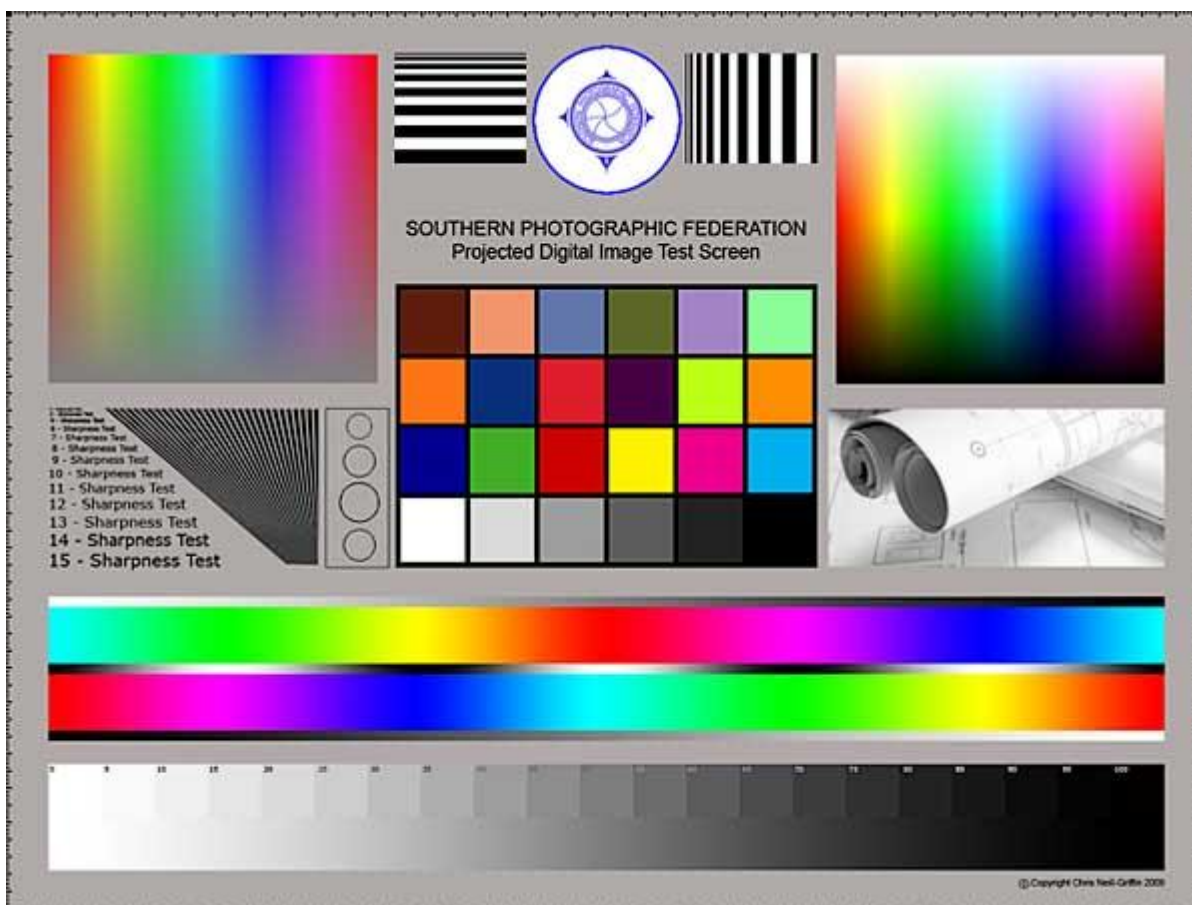


When printing colours outside a profile such as sRGB are re-mapped within the sRGB boundaries providing Relative Colorimetric. This is noted when you use the Printing dialogue box as can be seen here. As it says it is better than Perceptual rendering input.

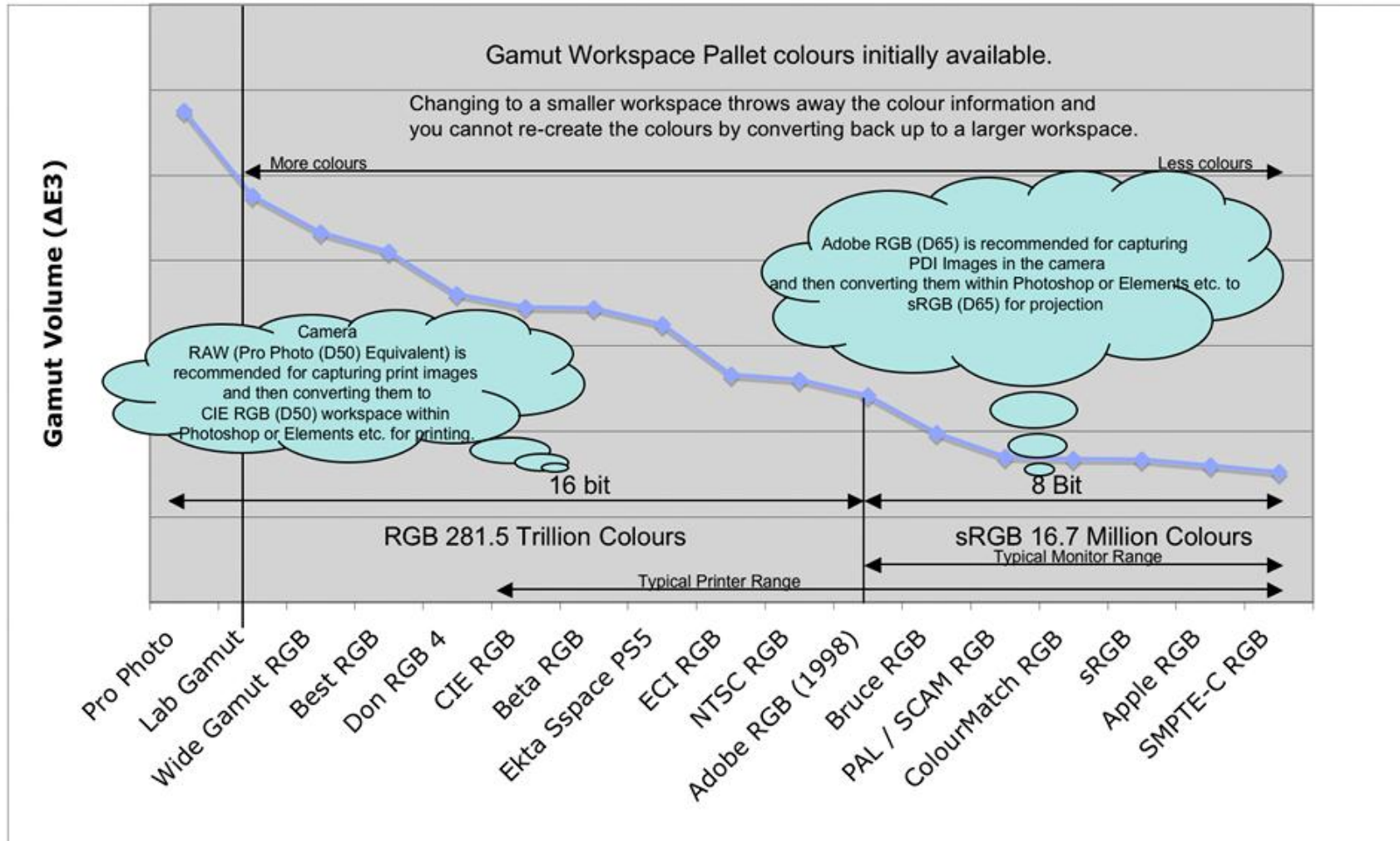
George also collected together lots of data about all the formats for photography and video in all its forms. It is a spreadsheet and can be seen at the end of this document.



Below is a reduced version of the SPF Colour Test chart. Even though this is not a perfect version because it is reduced you should be able to distinguish all the steps in the Black to White step wedge at the bottom.



Workspaces



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Viewfinders of Romsey

Office Paper /Frame

A0 33.1 x 46.8 (Ratio 1.4)
 A1 23.4 x 33.1 (Ratio 1.4)
 A2 16.5 x 23.4 (Ratio 1.4)
 A3 11.7 x 16.5 (Ratio 1.4)
 A4 8.3 x 11.7 (Ratio 1.4)

A2+ 17.51 in x 24.3 (Ratio 1.33)

A3+ 12.67 in x 17.51 (Ratio 1.38)

A3 Super 12 in x 20 (Ratio 1.66)

Super A3 12 in x 19.17 (Ratio 1.6)

A4+ 9.25 in x 12.67 (Ratio 1.37)

A4 Super 9.25 in x 12.67 (Ratio 1.37)

Super A4 8.93 in x 14.01 (Ratio 1.56)

A4 Long 8.26 in x 13.7 (Ratio 1.65)

A5 extra 8.26 in x 9.25 (Ratio 1.11)

Video (Pixels/AVI)

320 x 240 (Ratio 1.33) EGA
 640 x 480 (Ratio 1.33) VGA
 800 x 600 (Ratio 1.33) sVGA
 1024 x 768 (Ratio 1.33) XGA
 1280 x 1024 (Ratio 1.25) SXGA
 1400 x 1050 (Ratio 1.33) SXGA+

PAL DV 720 x 575 (Ratio 1.25)

HD 1280 x 720 (Ratio 1.77)

HD 1920 x 1080 (Ratio 1.77)

HDTV

16:9 (Ratio 1.77)

Tv

4 x 3 (Ratio 1.33)

Formats

Photographic
 RAW
 TIFF

Web / Office
(D65)

Jpeg

GIF

PNG

Workspaces

Adobe RGB
 sRGB
 Apple RGB
 ColorMatch RGB
 ProPhoto RGB
 ColorSync RGB
 Monitor RGB ???

CIE RGB
 Adobe Wide
 Gamut RGB
 Plus A Host of
 Others

Cameras

Large Format
 Medium Format
 35mm (Ratio 1.5)
 DSLR (Ratio 1.5)
 Compact (Ratio 1.33)
 Phone

See Video

Projected Size

1024 x 768 Jpeg (8bit) (Ratio 1.33)

Club

1400 x 1050 TIFF (8 bit) (Ratio 1.33)

RPS

SPF

Full Resolution TIFF

MPA

2048 Longest Edge Jpeg

BIPP

SPF Prints

500 x 400 (Ratio 1.25)

400 x 500 (Ratio 0.8)

Continued....

ISO 3664	ISO 12646:2008
If digital images are to be edited on a display, independent of printed output.	If digital images are to be edited on a display and compared to printed output
CIE D50	CIE D50
90 or Higher	90 or Higher
Less than 4	Less than 4
CIE D50 (5000K or less. Not all 5000K lamps are D50)	CIE D50 (5000K or less. Not all 5000K lamps are D50)
64 to 32 lux (or lower)	32 lux (or lower)
1,500 – 2,500 lux	1,500 – 2,500 lux
Baffle from view all windows, point sources etc.	Baffle from view all windows, point sources etc.
No reflections on monitors	No reflections on monitors
CIE D65	CIE D50
75cd/m2 to 100 cd/m2	80cd/m2 to 120 cd/m2
Colour-neutral surfaces; walls 80% reflectance or less	Colour-neutral surfaces; walls 80% reflectance or less
Regularly test all devices for adherence to specifications.	Regularly test all devices for adherence to specifications.

Sensor Size

- 1 x 1 (Ratio 1)
- 1 x 2 (Ratio 2)
- 1 x 3 (Ratio 3) Panoramic
- 1 x 4 (Ratio 4) Super Panoramic
- 2 x 3 (Ratio 1.5) 35mm
- 3 x 4 (Ratio 1.33)
- 3 x 5 (Ratio 1.66)
- 4 x 5 (Ratio 1.25)
- 4 x3 (Ratio 1.33)
- 5 x 4 (Ratio 1.25)
- 5 x 7 (Ratio 1.4)
- 6 x 45 (Ratio 1.33)
- 6 x 6 (Ratio 1:1)
- 6 x 7 (Ratio 1.16)
- 9 x 10 (Ratio 1.11)

Typical	Bit Depth	Bit Depth ^ 2	CMYK (4 Colours) (prints)	RGB (3 Colours)
Jpeg	8	256	4.29 Billion	16.7 Million
RAW/Tiff/	12	4,096	2.81 ^14	6.8^10
RAW	14	16,384	7.2^16	3.4^12