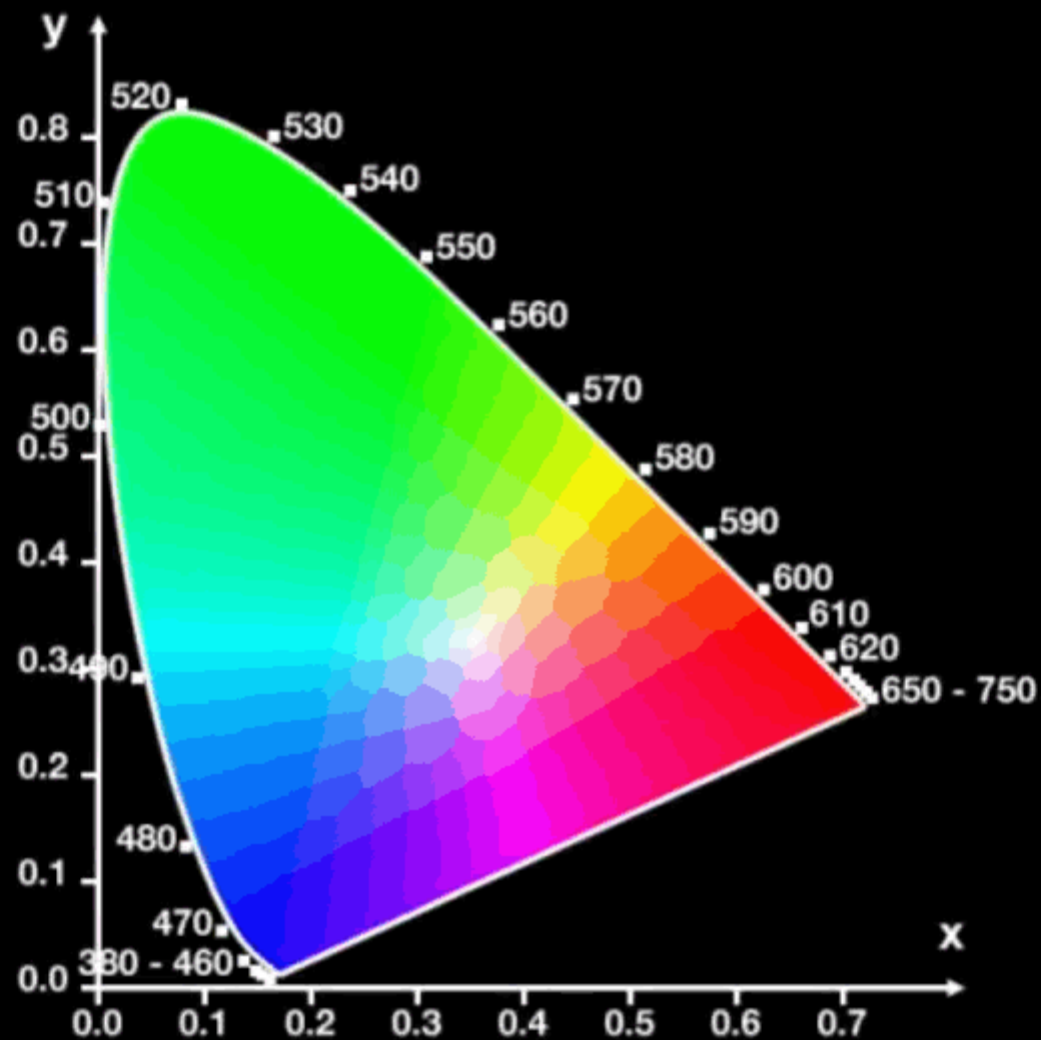
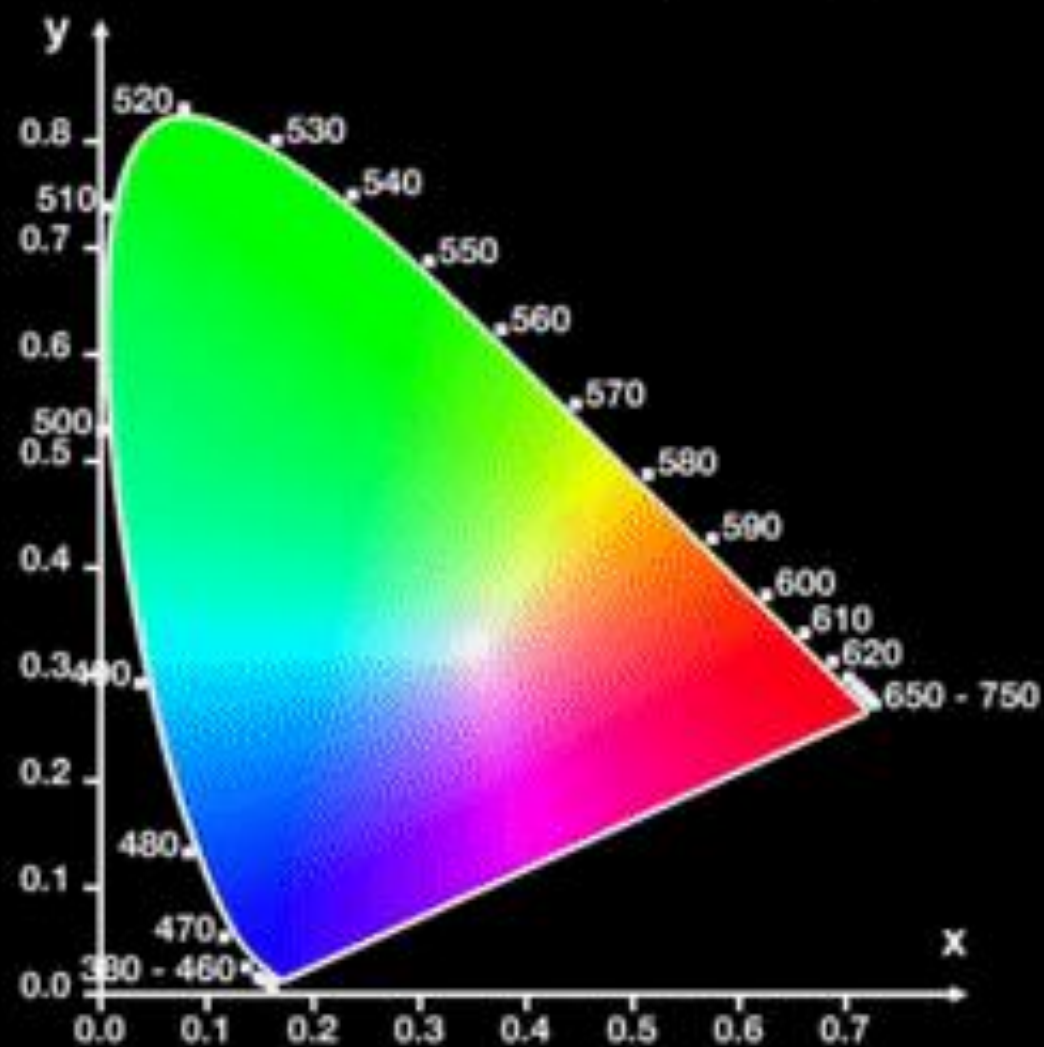


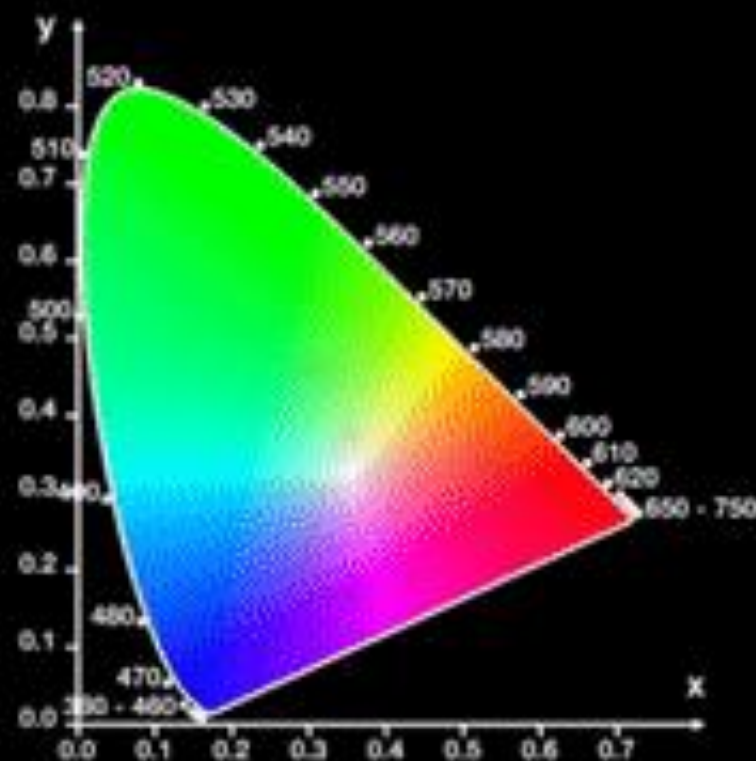
The chromaticity diagram



The chromaticity diagram



The chromaticity diagram

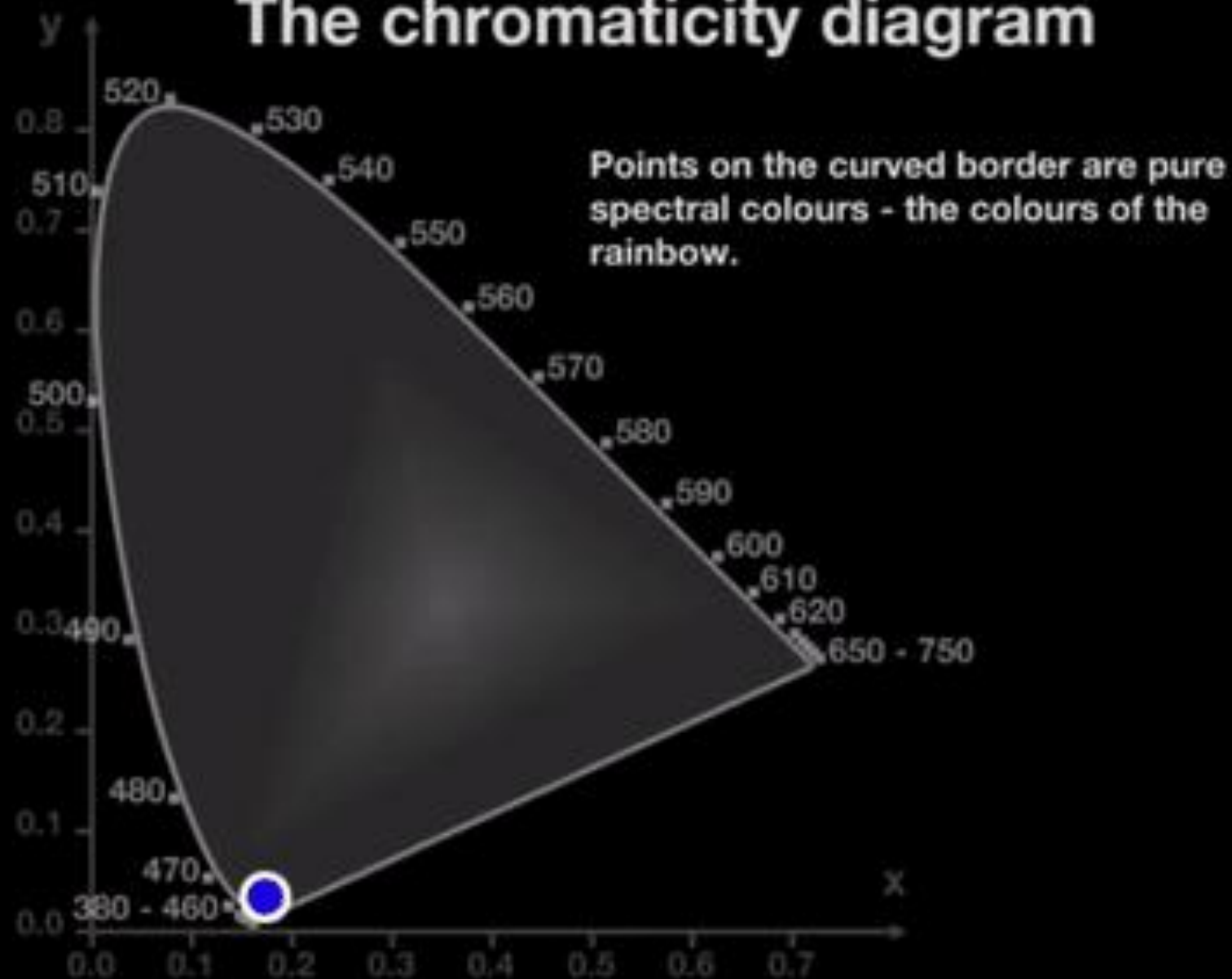


The chromaticity diagram is a graph which shows ALL possible colours.

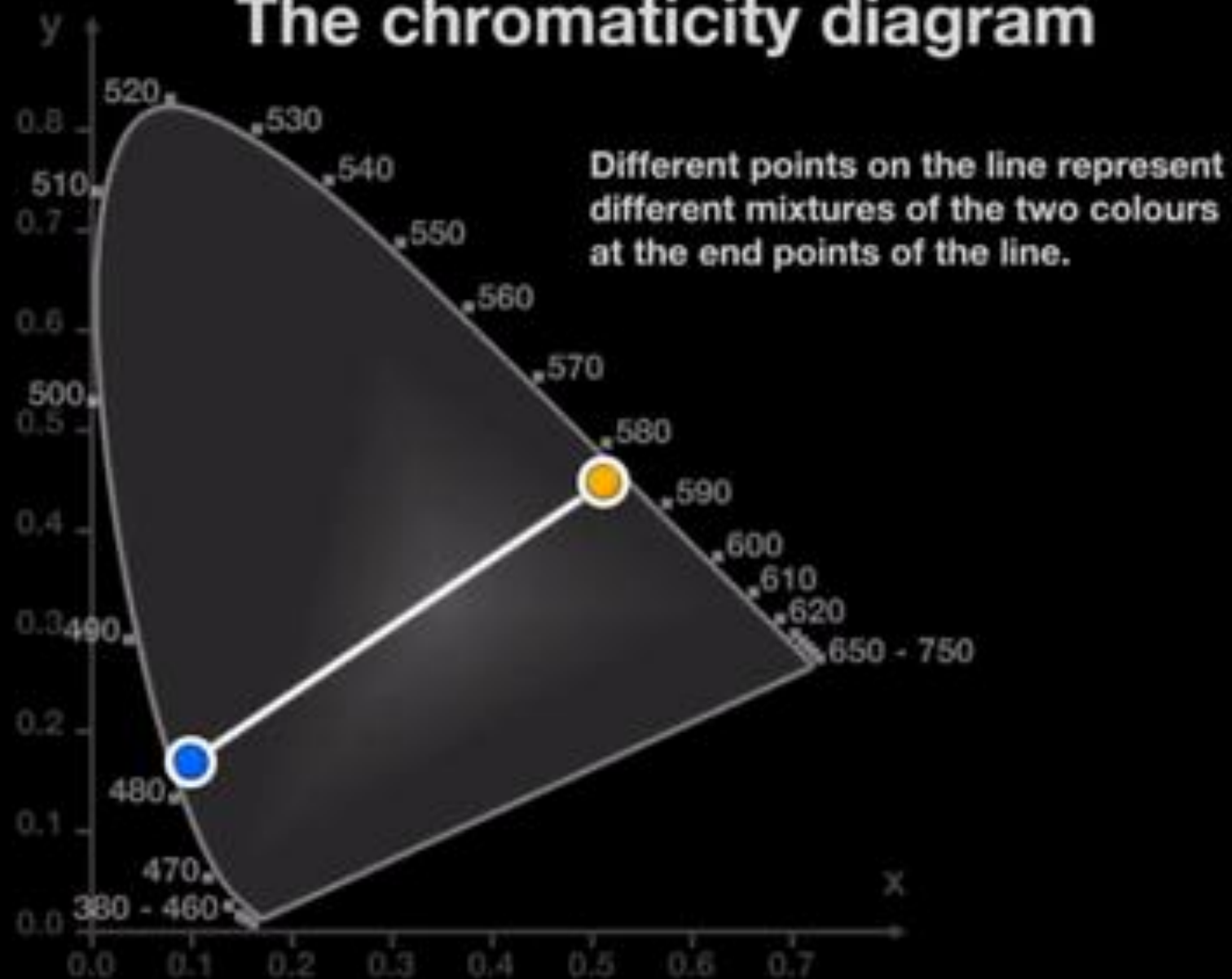
Each colour is defined by a pair of numerical co-ordinates - the chromaticity co-ordinate.

We can use the chromaticity diagram to see how different colours of light mix together

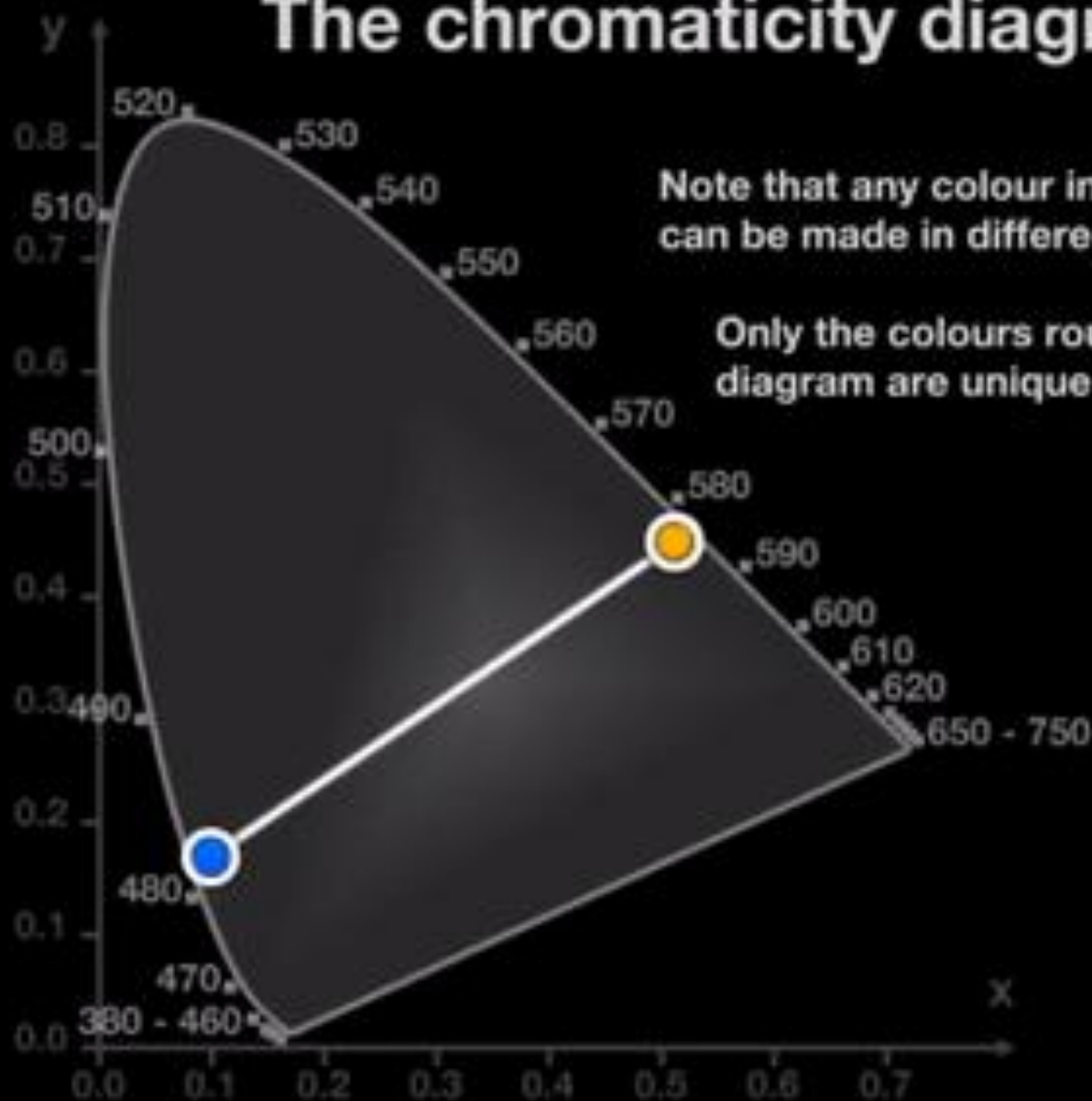
The chromaticity diagram



The chromaticity diagram



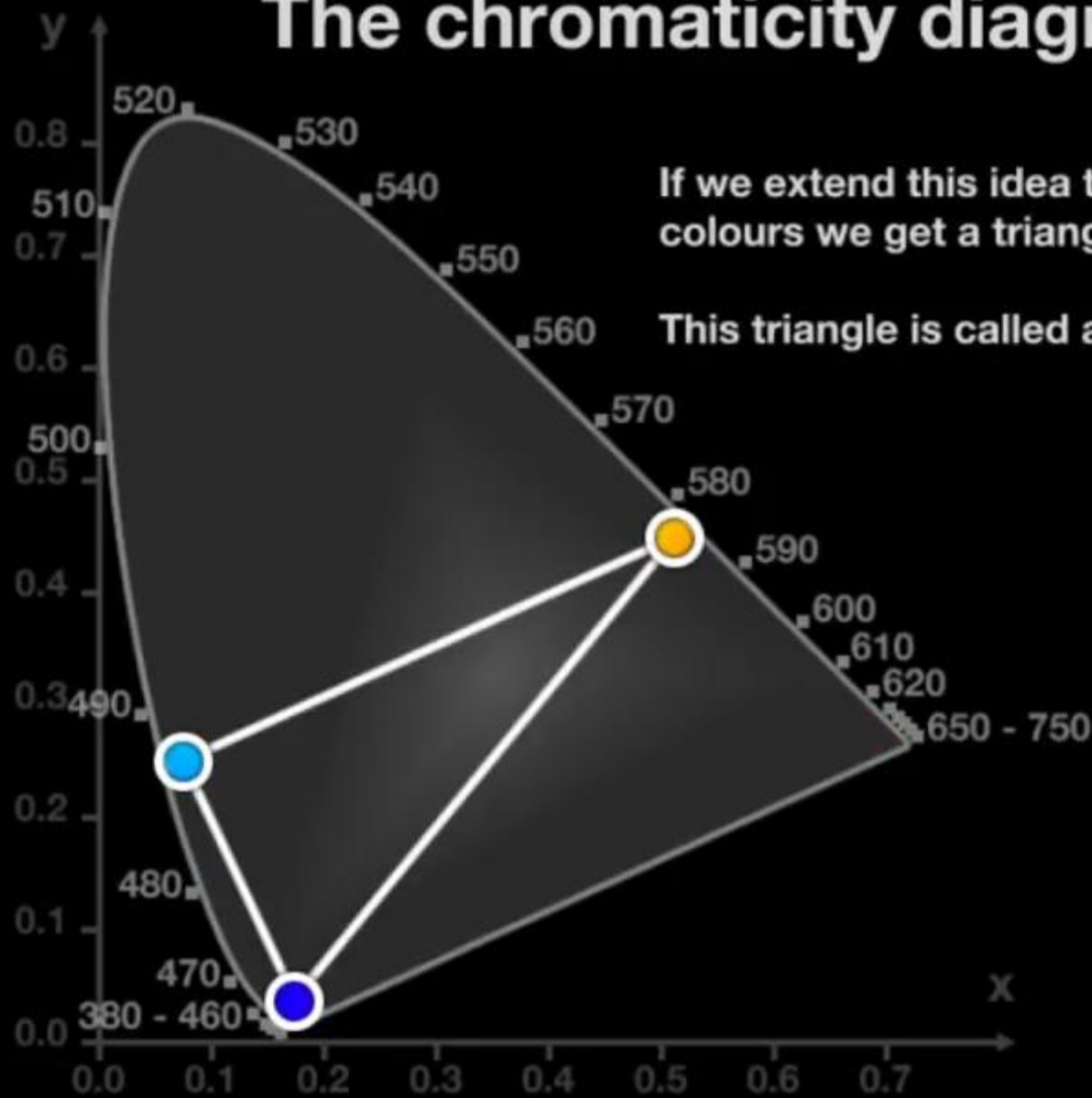
The chromaticity diagram



Note that any colour inside the diagram can be made in different ways.

Only the colours round the edge of the diagram are unique colours.

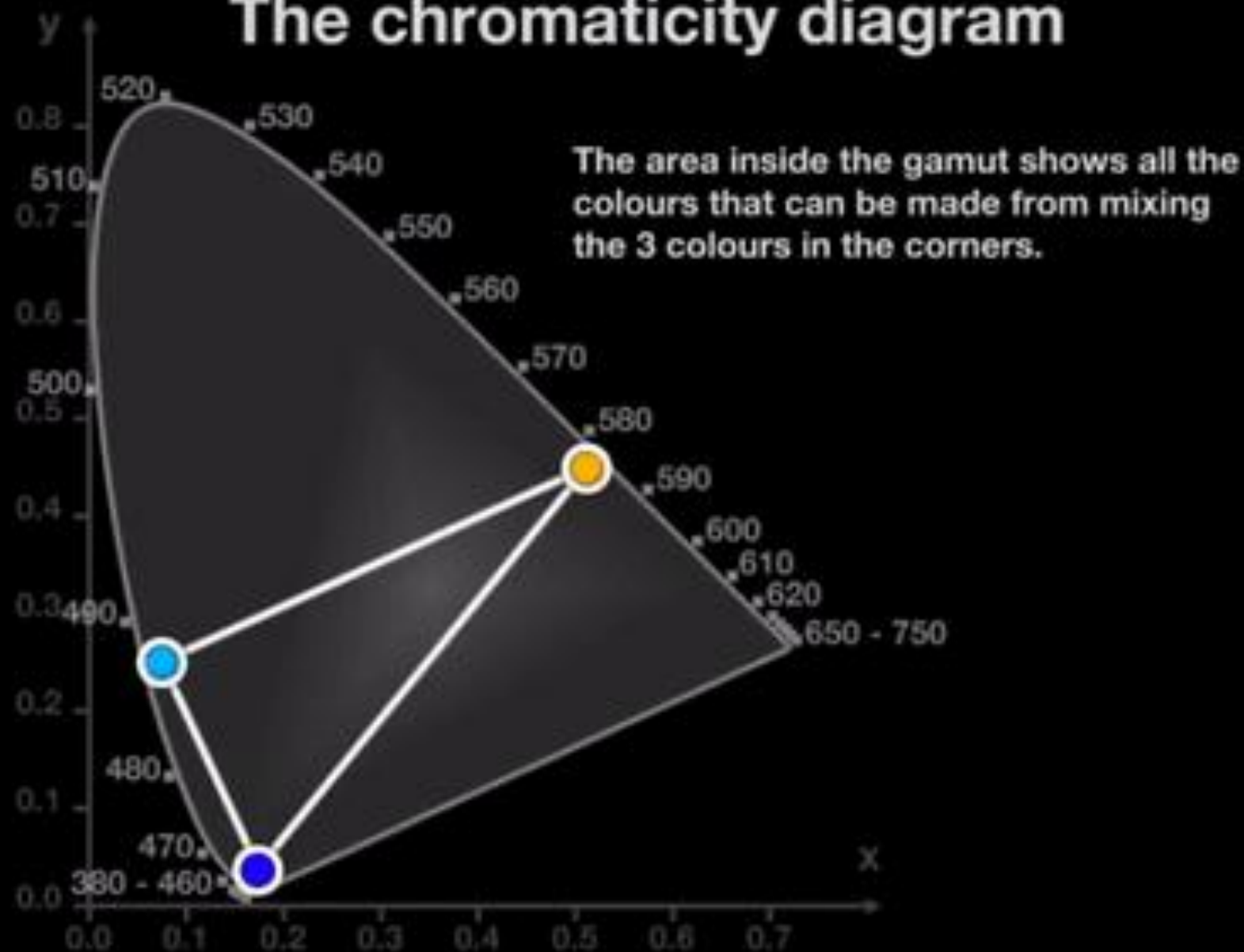
The chromaticity diagram



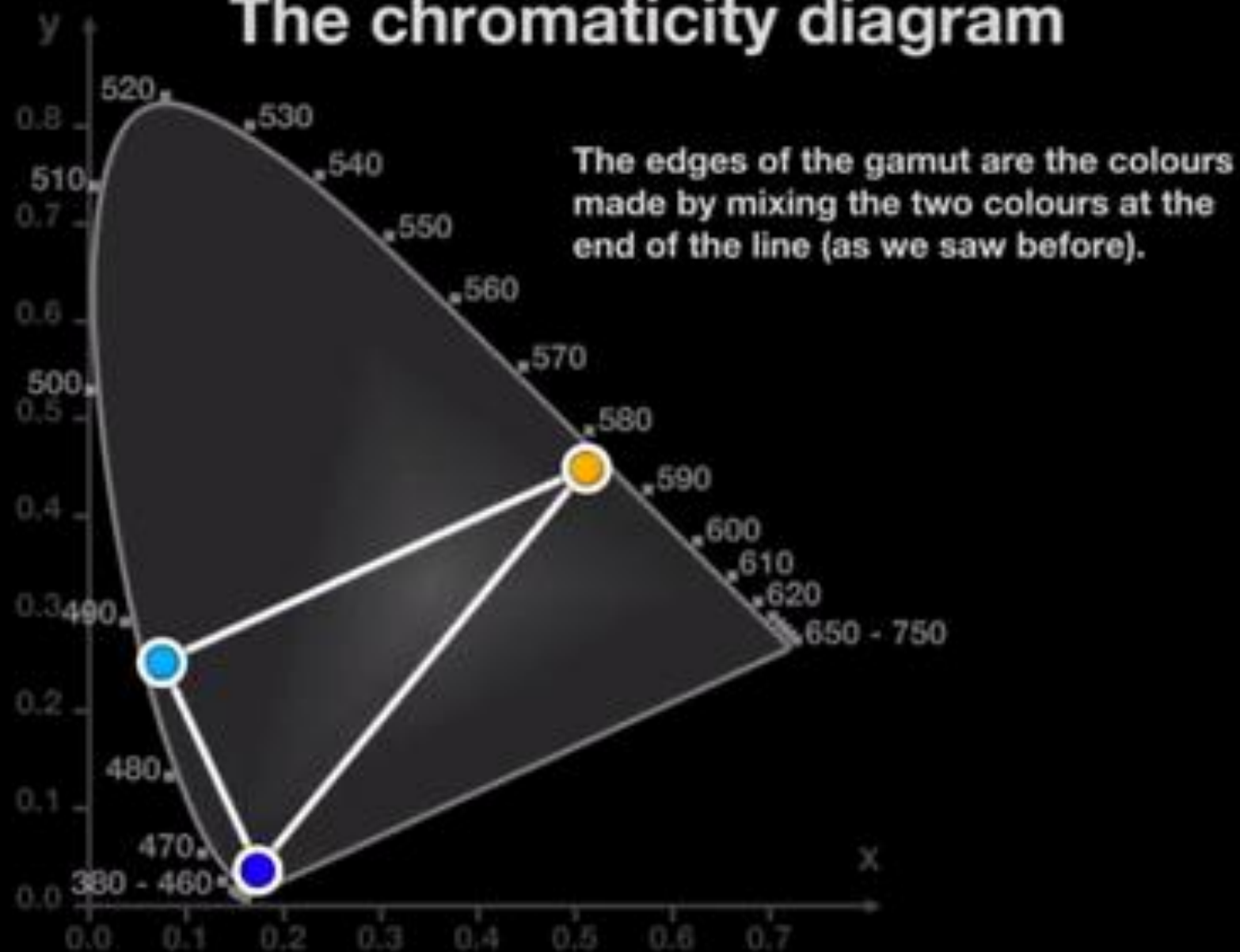
If we extend this idea to mixtures of 3 colours we get a triangle.

This triangle is called a colour gamut.

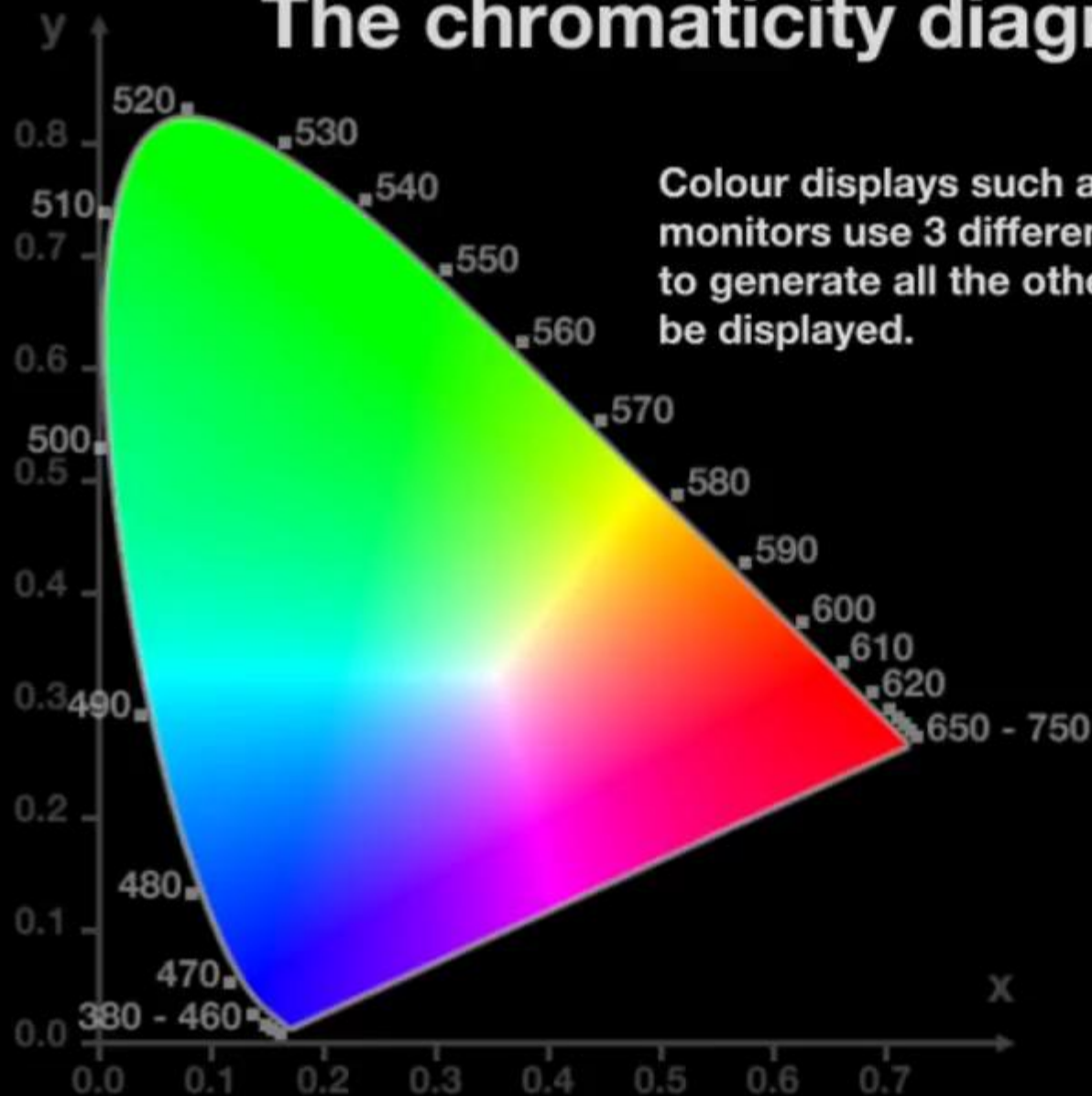
The chromaticity diagram



The chromaticity diagram

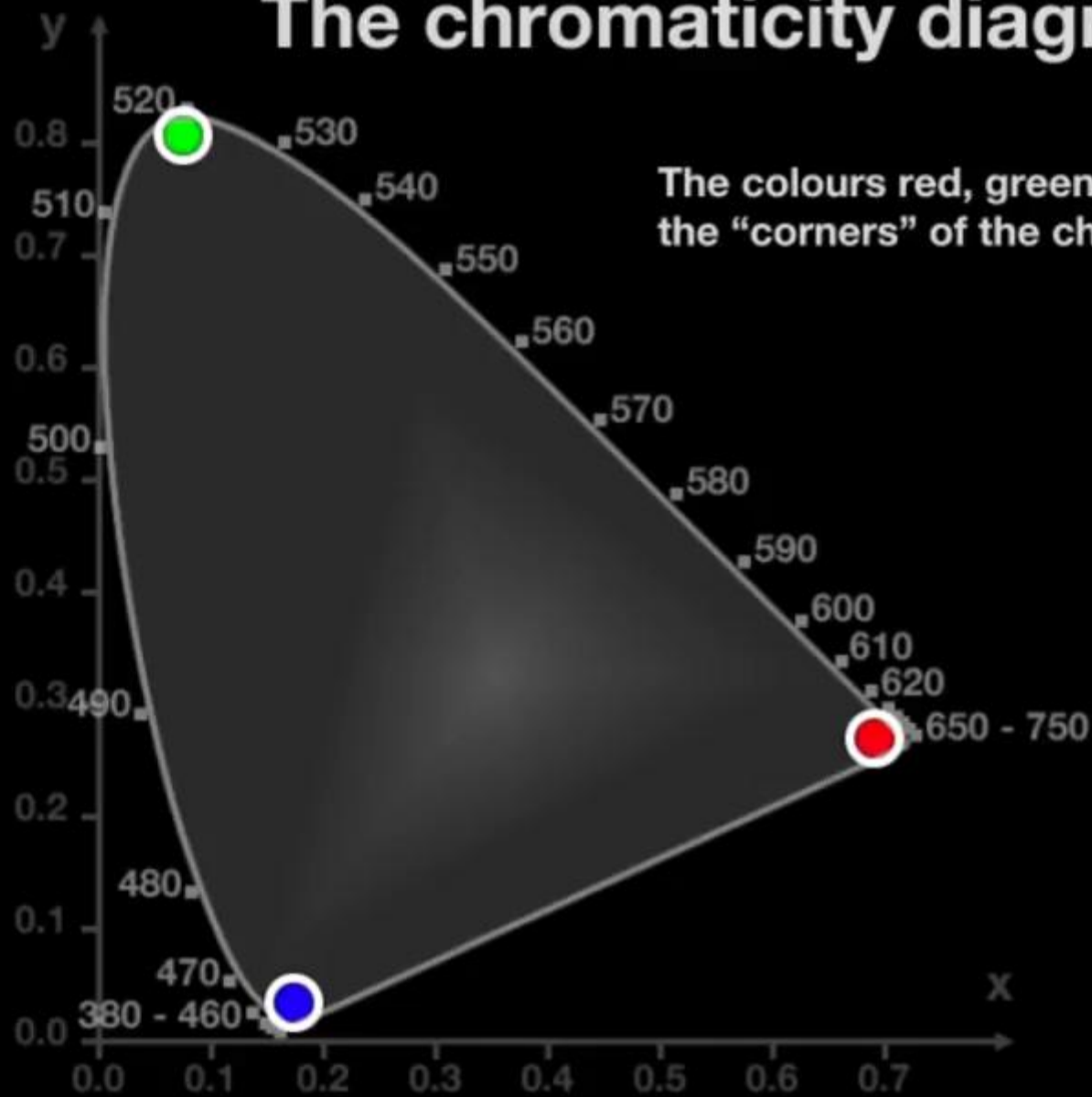


The chromaticity diagram



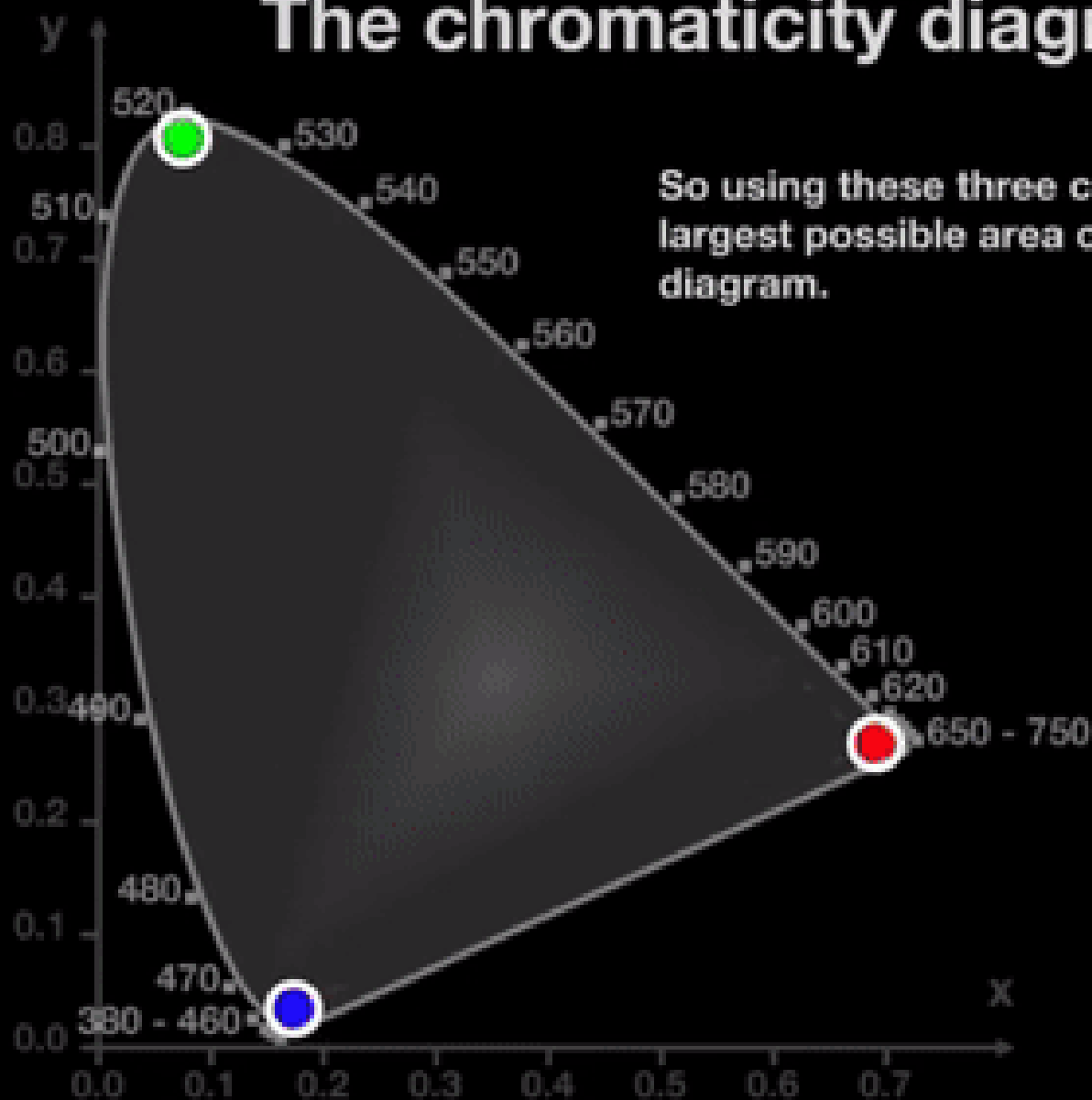
Colour displays such as TVs & computer monitors use 3 different colours of pixel to generate all the other colours that can be displayed.

The chromaticity diagram

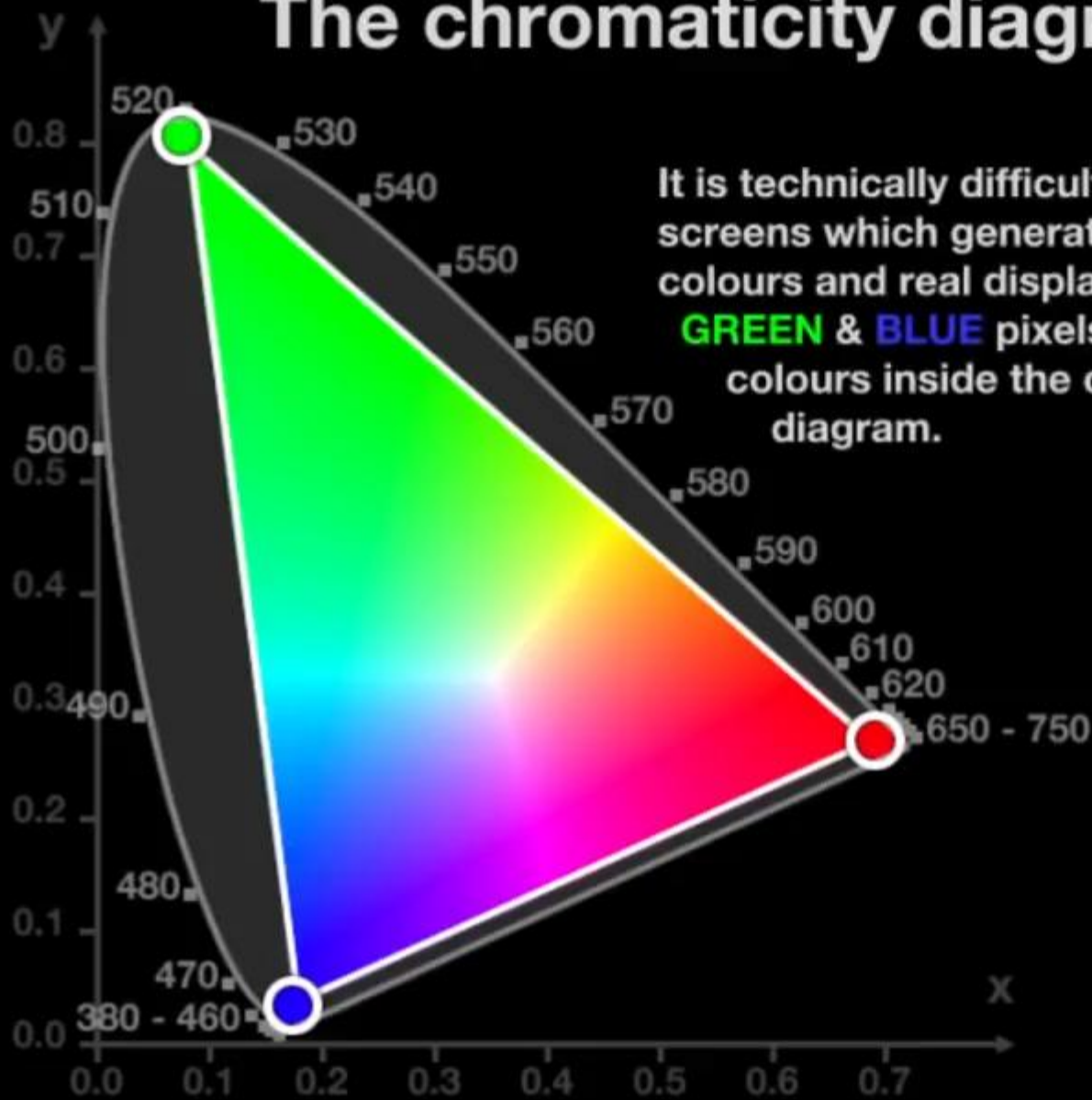


The colours red, green and violet are in the "corners" of the chromaticity diagram.

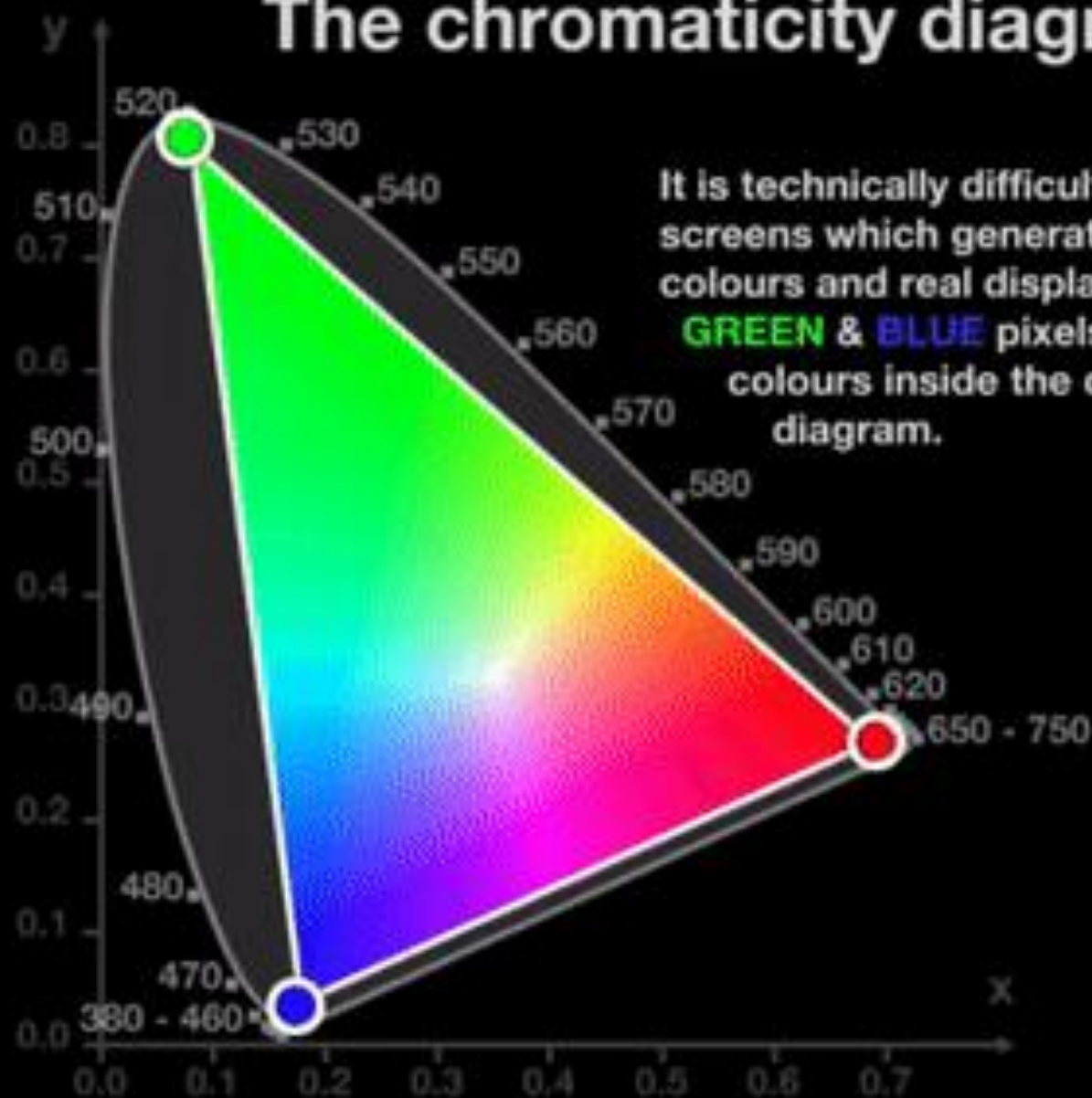
The chromaticity diagram



The chromaticity diagram

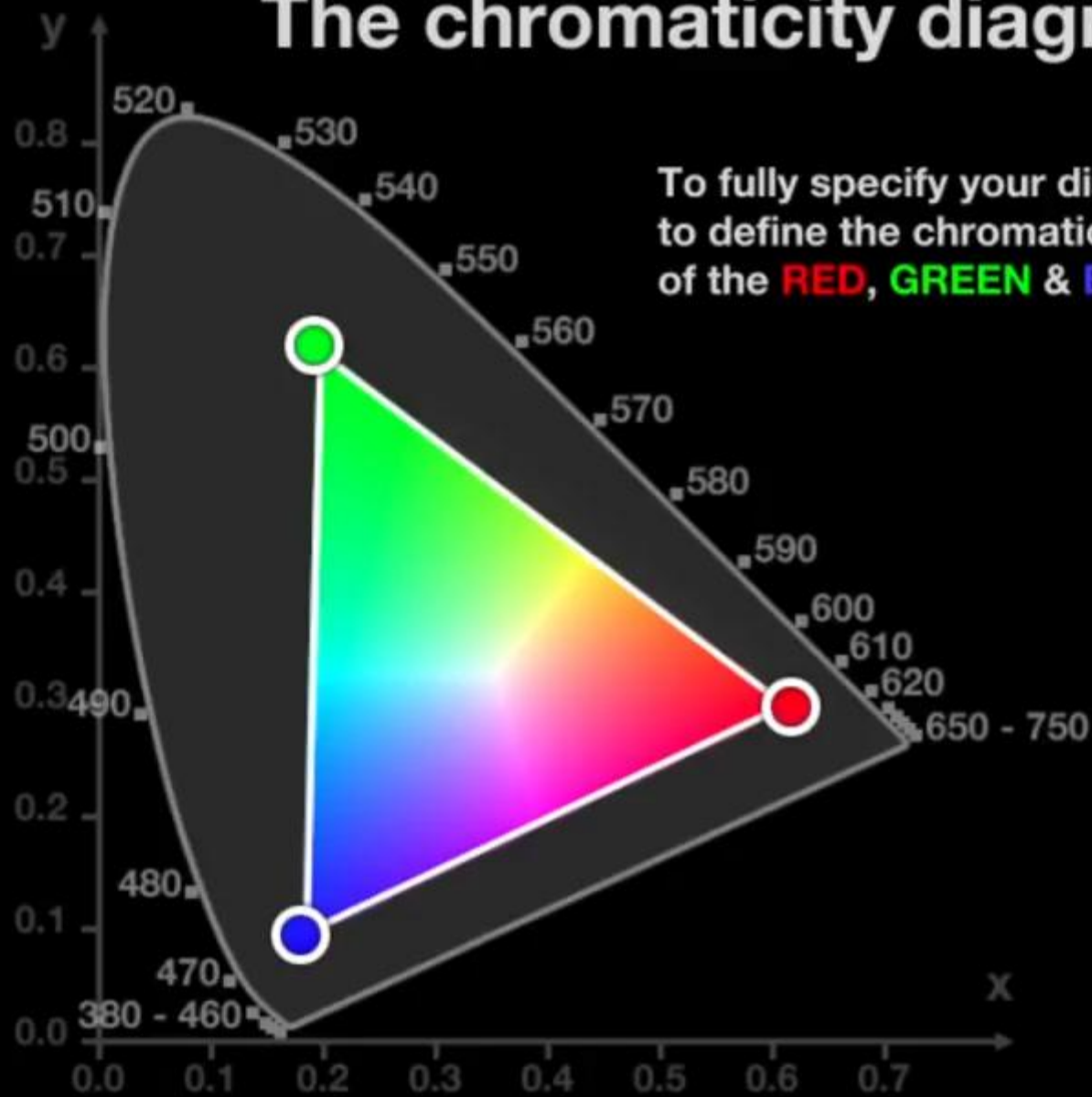


The chromaticity diagram



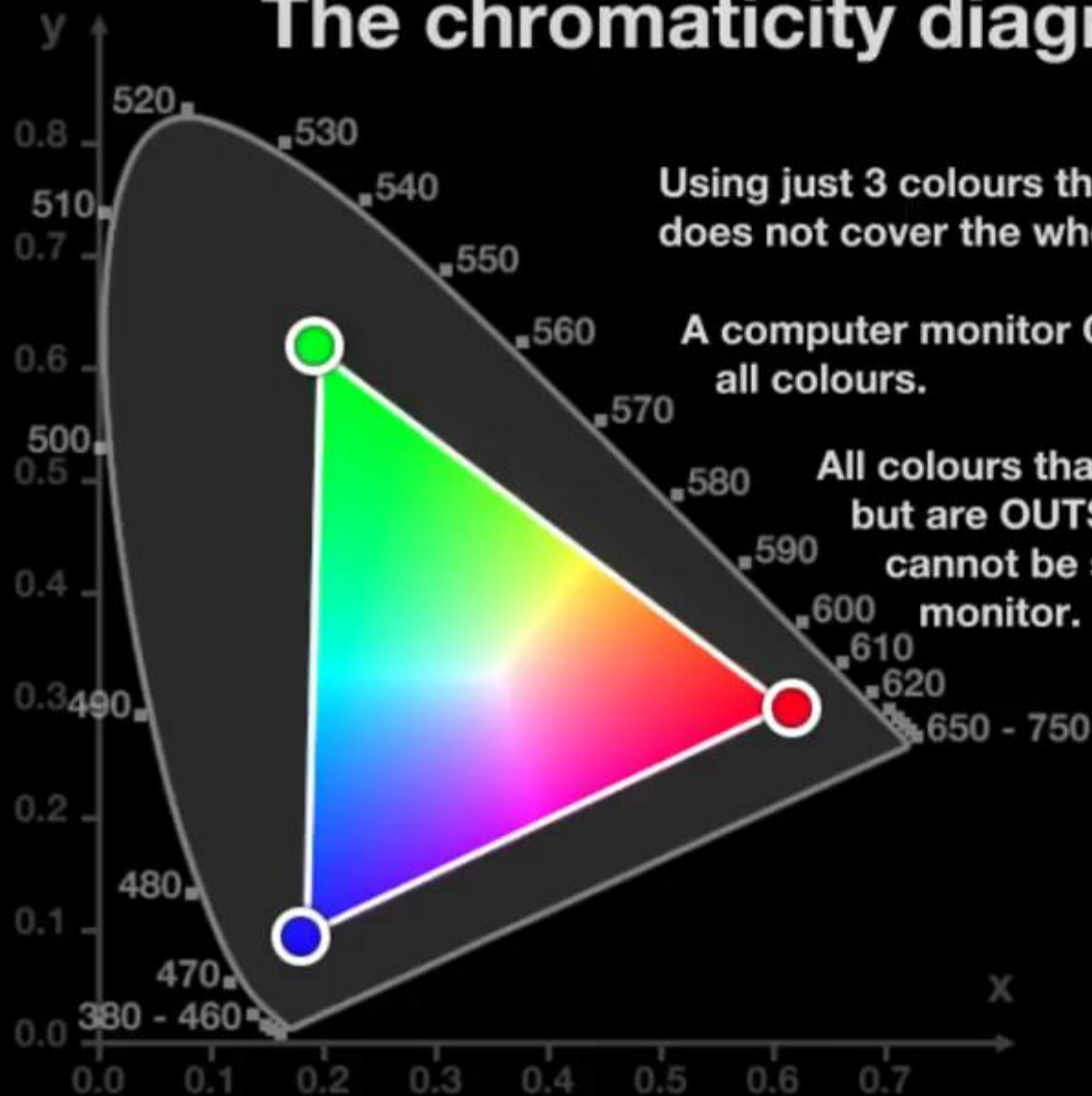
It is technically difficult to produce screens which generate pure spectral colours and real displays use **RED**, **GREEN** & **BLUE** pixels which are colours inside the chromaticity diagram.

The chromaticity diagram



To fully specify your display you need to define the chromaticity co-ordinates of the **RED**, **GREEN** & **BLUE** that it uses.

The chromaticity diagram

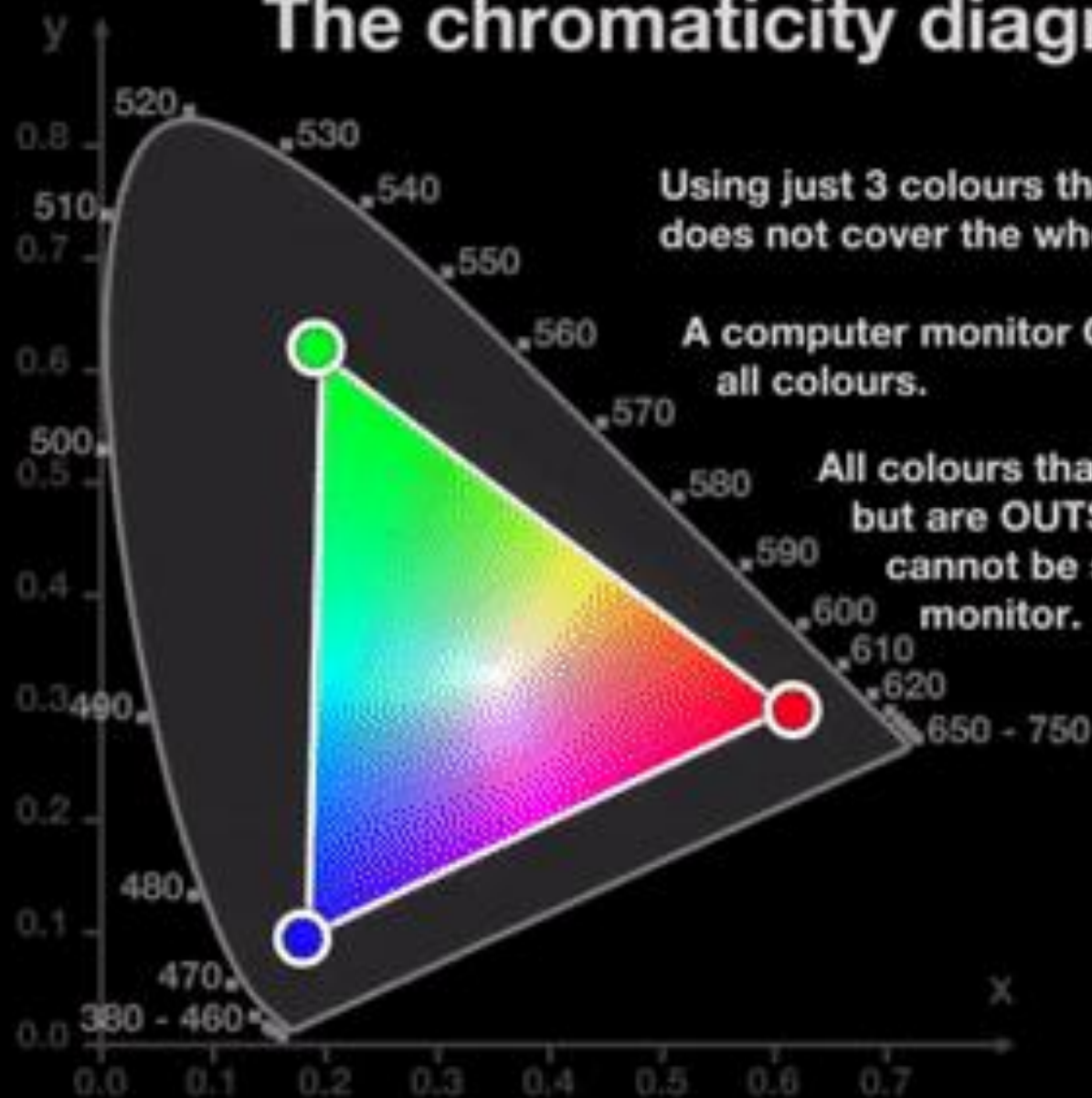


Using just 3 colours the triangular gamut does not cover the whole diagram.

A computer monitor CANNOT display all colours.

All colours that occur in nature but are OUTSIDE the triangle cannot be shown on a monitor.

The chromaticity diagram

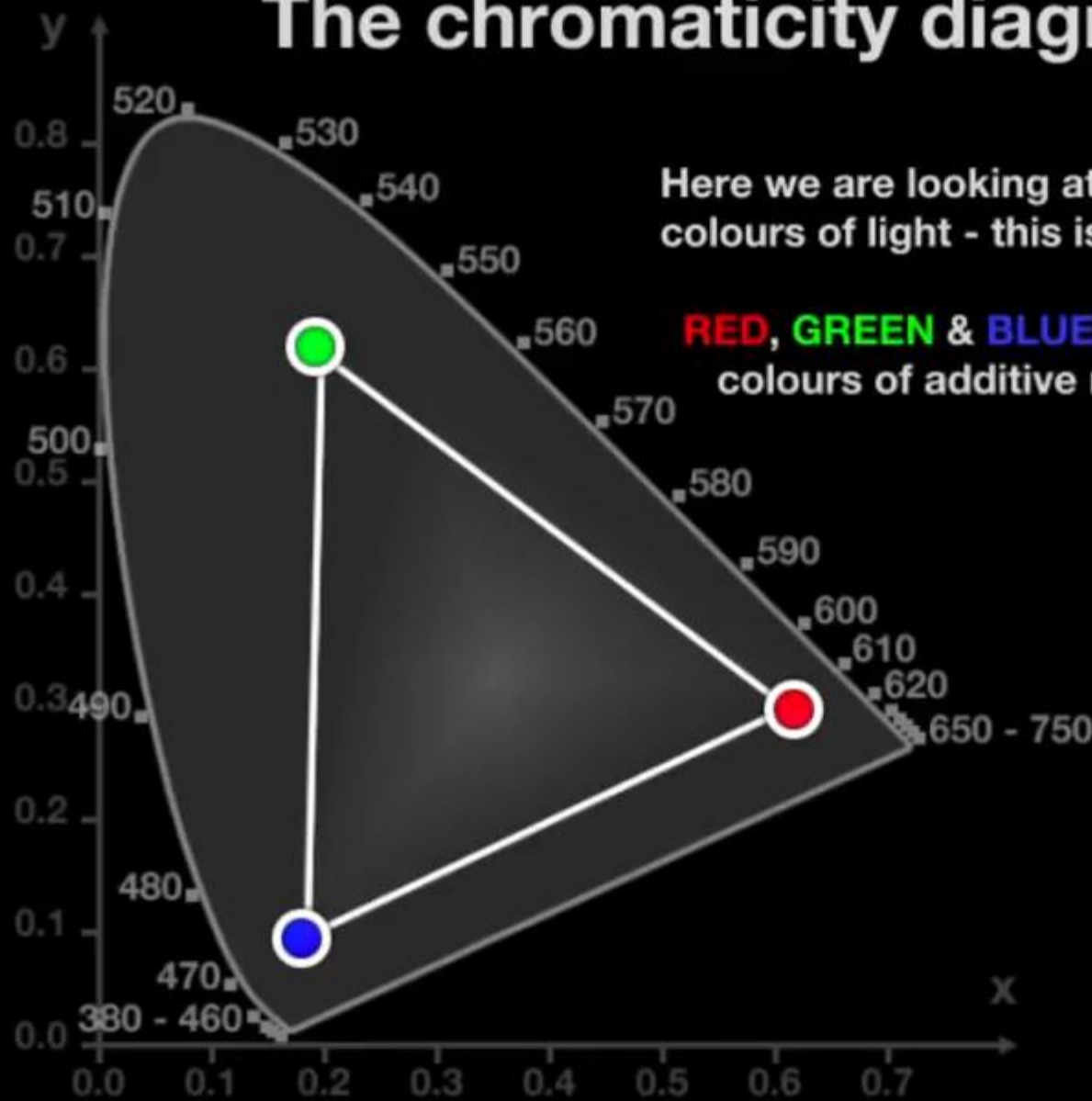


Using just 3 colours the triangular gamut does not cover the whole diagram.

A computer monitor **CANNOT** display all colours.

All colours that occur in nature but are **OUTSIDE** the triangle cannot be shown on a monitor.

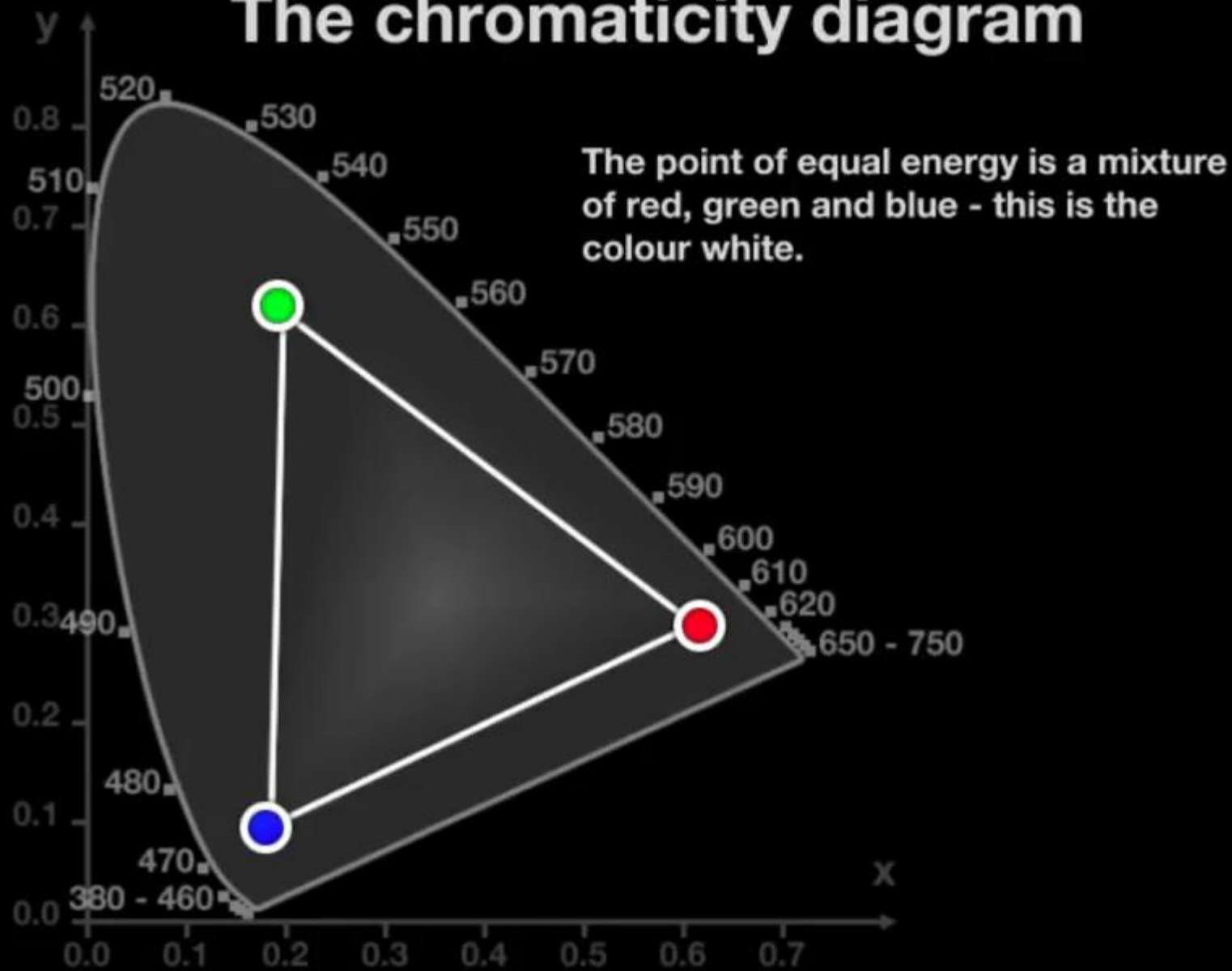
The chromaticity diagram

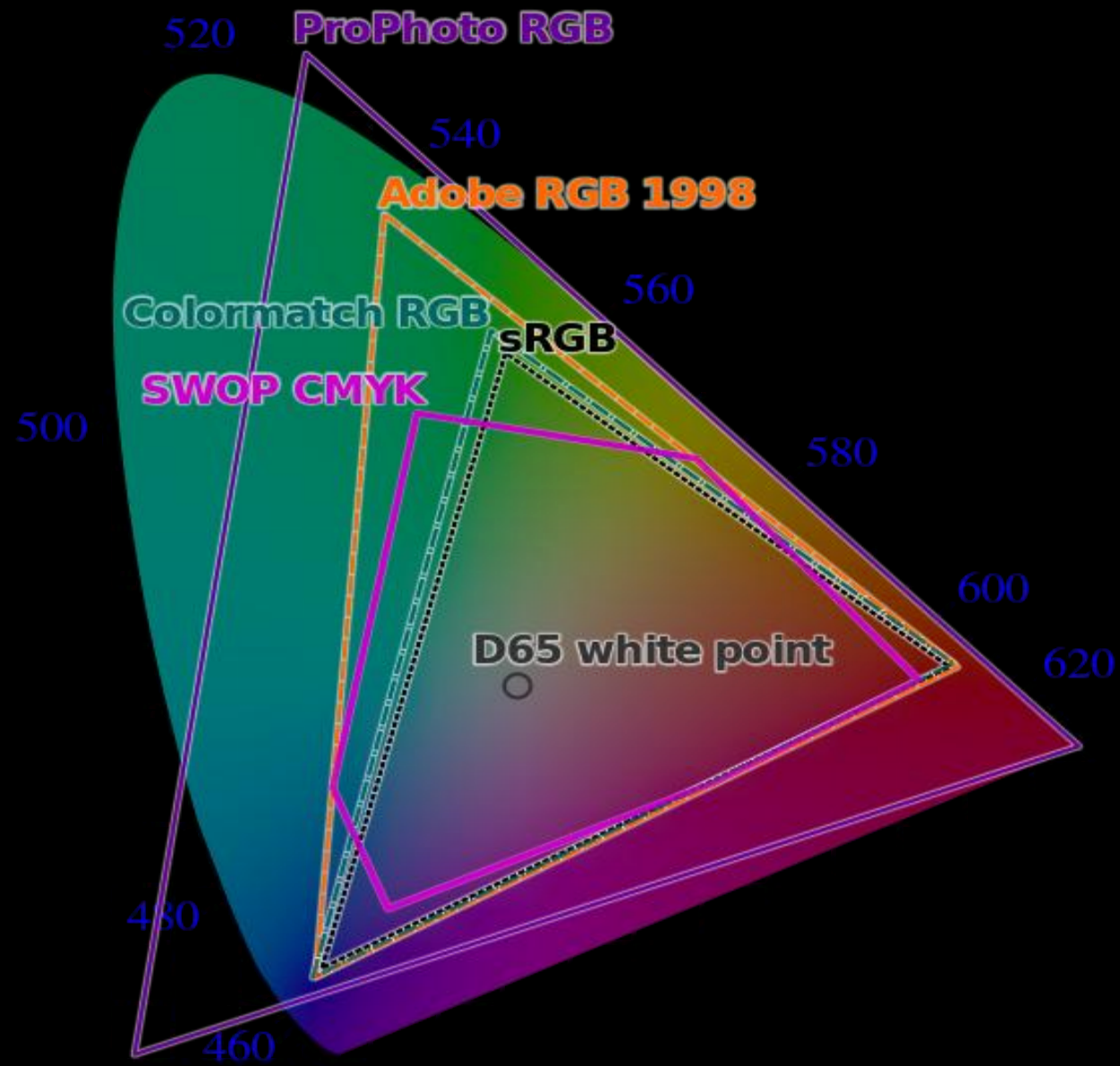


Here we are looking at mixing different colours of light - this is additive mixing.

RED, GREEN & BLUE are the primary colours of additive mixing.

The chromaticity diagram





THANK YOU

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