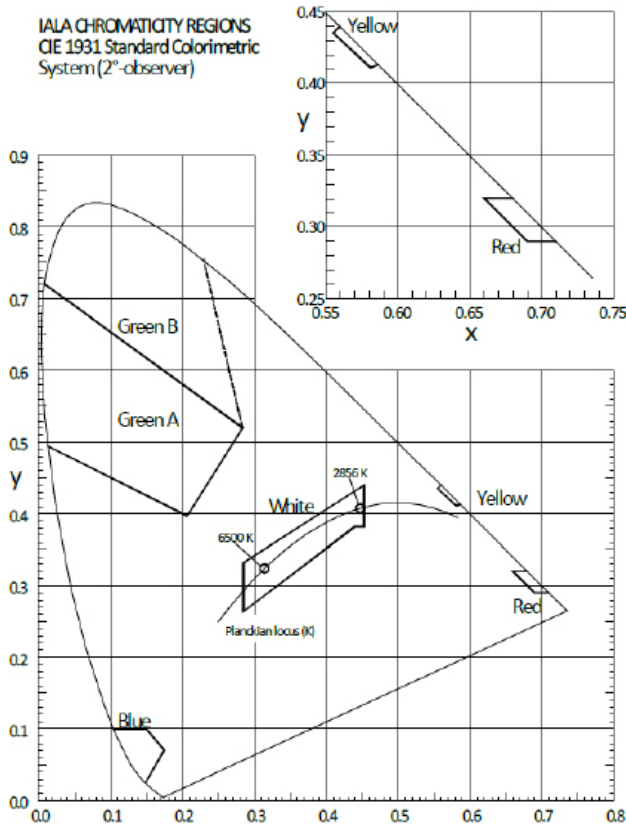




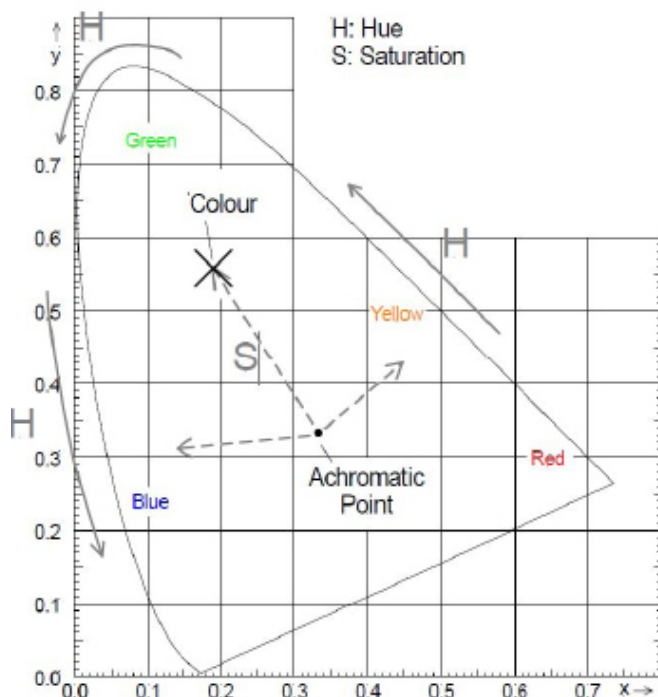
LIGHT COLOURS - Specification



Measuring tunnel

Colours are specified with CIE 1931 standard colorimetric observer (2°-observer).

- The boundaries between the colours at spectrum locus is the spectrum locus.
- Green A is the preferred region for all green lights.
- Green B is an accepted region, where Green A cannot be achieved with the required luminous intensity for the intended application.



SURFACE COLOUR IN DAYMARKS - Specification

The Surface Colour is described by a luminance factor β and two chromaticity coordinates x, y (see IALA Recommendation E-108 On Surface Colours).

The IALA MBS uses 6 Colours: Red, Yellow, White, Green, Blue and Black. The following figure shows the CIE standard chromaticity diagram and the location of the five colours (black and white are at the achromatic point).



For practical considerations it is better to describe the colour-by-colour collections. IALA currently supports two colour collections, which are known worldwide:

Colour	IALA Recommendation E-108					Maximum (fluorescent)
	Ordinary			Fluorescent		
	B	NCS	RAL	B	RAL	
Red	> 0.07	S 1085-Y80R	3028	> 0.25	3024	≈ 0.50
Yellow	> 0.50	S 1080-Y	1023	> 0.60	-	≈ 1.00
Green	> 0.10	S 2070-G10Y	6037	> 0.25	6038	≈ 0.50
Blue	> 0.07	S 4050-R90B	5017	-	-	-
White	> 0.75	S 0500-N	9016	-	-	-
Black	< 0.03	S 9000-N	9017	-	-	-

(Nota: β es el factor de luminosidad)

AGING OF COLOUR

There are various factors that cause or increase colour degradation:

- Ultra violet degradation can cause fading of the color pigment.
- Abrasion of the surface.
- Fouling and bird droppings can cover the color.

The fading of the colour pigment often results in a desaturation of the colour, this difficult both detection and recognition.



RETROREFLECTIVE SHEETING

A retroreflective surface should not be used for daymarks throughout. Retroreflective films can be used for some small parts of an unlighted buoy, so the mariner can detect the position and colour at night by use of a searchlight.

Combination of colours

Many daymarks of the IALA Maritime Buoyage System consist of a combination of colours e.g. cardinal or isolated danger marks.



For the identification of the daymark the stripe colour configuration must be able to be recognized. That means that the day range of a mark with combined colours will always be much lower than a single colour mark.

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Colour recognition

The colour recognition depends mainly on the:



- brightness of the colour.
- hue.
- contrast to the background.
- colour difference to the background.

In most situations the background appears nearly grey, so that the colour difference depends on the saturation of the daymark only.

Colour recognition is better with dark backgrounds and harder with bright ones.