

TRANSITION COUNCIL
3rd session



10-13 December 2024
Headquarters, France

10 – TECHNICAL ACTIVITIES

10.10 – Technical update

10.10.1 – Presentation of IALA at CIE Research Group on Cone fundamentals

Note by ENG

1. INTRODUCTION

On 3rd June 2024, a workshop to celebrate the 100-year anniversary of the adoption of the $V(\lambda)$ function was held by the International Commission on Illumination (CIE) and Consultative Committee for Photometry and Radiometry (CCPR). This function is a fundamental one in photometry that defines the spectral response of the human eye and is used indirectly in IALA documentation on marine AtoN lights.

Held at the BIPM, Paris, France, the event gave an opportunity for the attendees to review the history of the function and get an understanding of the fundamental change that might happen in the relatively near future.

It is proposed that the fundamental colour matching functions used in photometry and colorimetry would be modified to align with the results of relatively recent experiments on human eye spectral response. The change is often referred to as “cone fundamentals” because the functions are said to more accurately match how the human visual system operates in practice.

2. RESEARCH FORUM

The change is not without controversy, and CIE are putting together a research forum to investigate the impact of such a change on the industry. It was reported that the earliest time that the research forum would report back is five years, meaning that there is no immediate change expected. Even then, it is expected that the change to cone fundamentals will be a gradual one.

Details of the research forum can be found here: <https://cie.co.at/researchforum/rf-05>.

IALA has an interest in the outcome of the forum as it will directly impact the methodology of light measurement, definitions of light colour, and the definitions of luminous range and nominal range. Therefore, it would be prudent that the marine AtoN industry is represented so that potential changes can be understood at an early stage and, if necessary, challenge proposals that may cause difficulties to IALA member interests in this area.

The likely representative to CIE will be Alwyn Williams, the current chair of the ENG Committee, who will report back to the ENG Committee within IALA.

3. THE COUNCIL IS REQUESTED TO

APPROVE in principle that IALA can apply to be represented at the CIE research forum on the adoption on “Cone Fundamentals” in photometry and colorimetry.