

**27th Experts Meeting, Toulouse, France**

# **Task 5: Test Methods and Performance Metrics**

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# EU Ecodesign Lighting Regulation (EU No. 2019/2020)

## Revision planned for 2024

### Article 9

#### Review

The Commission shall review this Regulation in the light of technological progress and shall present the results of this review, including, if appropriate, a draft revision proposal, to the Consultation Forum no later than 25 December 2024.

This review shall in particular assess the appropriateness of:

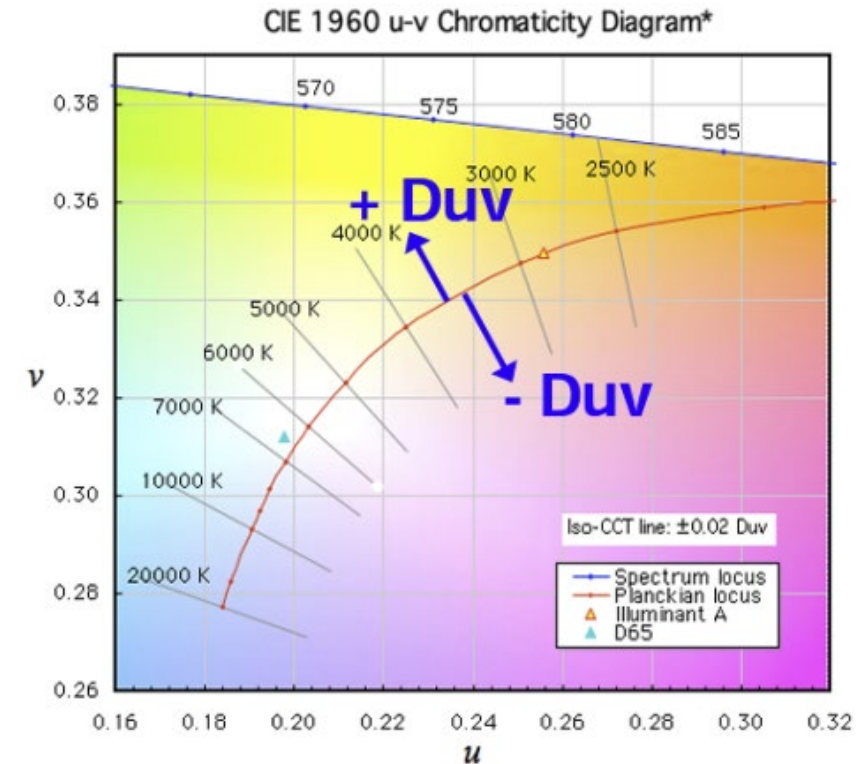
- (a) setting more stringent energy efficiency requirements for all light source types, in particular for non-LED light source types, and for separate control gears;
- (b) setting requirements on lighting control parts;
- (c) setting more stringent requirements on flicker and stroboscopic effects, while extending them to separate control gears;
- (d) setting requirements on dimming, including the interaction with flicker;

### Areas where the SSL Annex could engage

- (e) setting more stringent requirements on (networked) standby power;
- (f) lowering or abolishing the power bonus for colour-tuneable light sources and removing the exemption for high colour purity;
- (g) setting lifetime requirements;
- (h) setting improved information requirements concerning lifetime, including for control gears;
- (i) substituting the CRI colour rendering metric by a more adequate metric;
- (j) verifying the adequacy of lumen as a stand-alone metric for the quantity of visible light;
- (k) the exemptions;
- (l) setting additional resource efficiency requirements for products in accordance with the principles of the circular economy, especially concerning the removability and exchangeability of light sources and control gears.

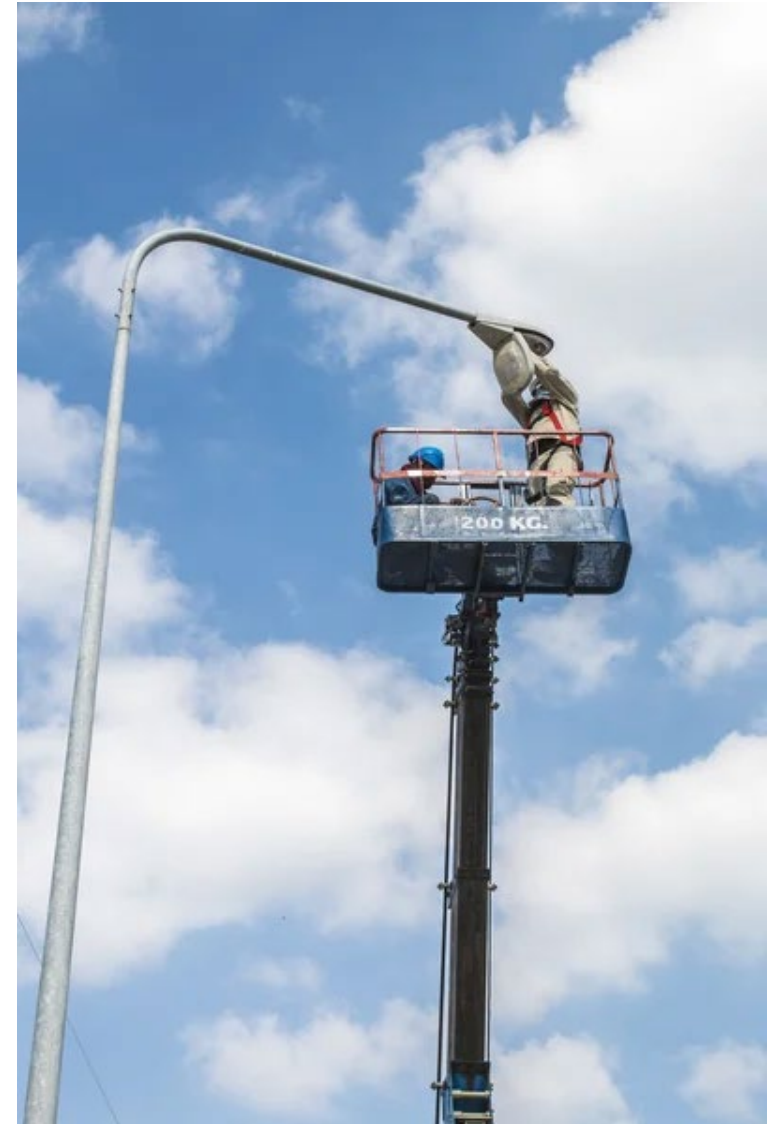
# Updating the colour-related metrics in Ecodesign

- CRI Ra and x,y chromaticity are outdated
- Industry opposed new colour metrics in 2019 because it was inconsistent with IEC standards
- Mark Duffy informed Yoshi about the latest work in IEC standards:
- IEC SC 34A – a new standard IEC 63221, replacing IEC 62612:
  - (x,y) and (u',v') chromaticity coordinates are supported
  - n-step u'v' circles from CIE TN001
  - CCT and Duv are supported
- No change to colour metric, still using CRI Ra



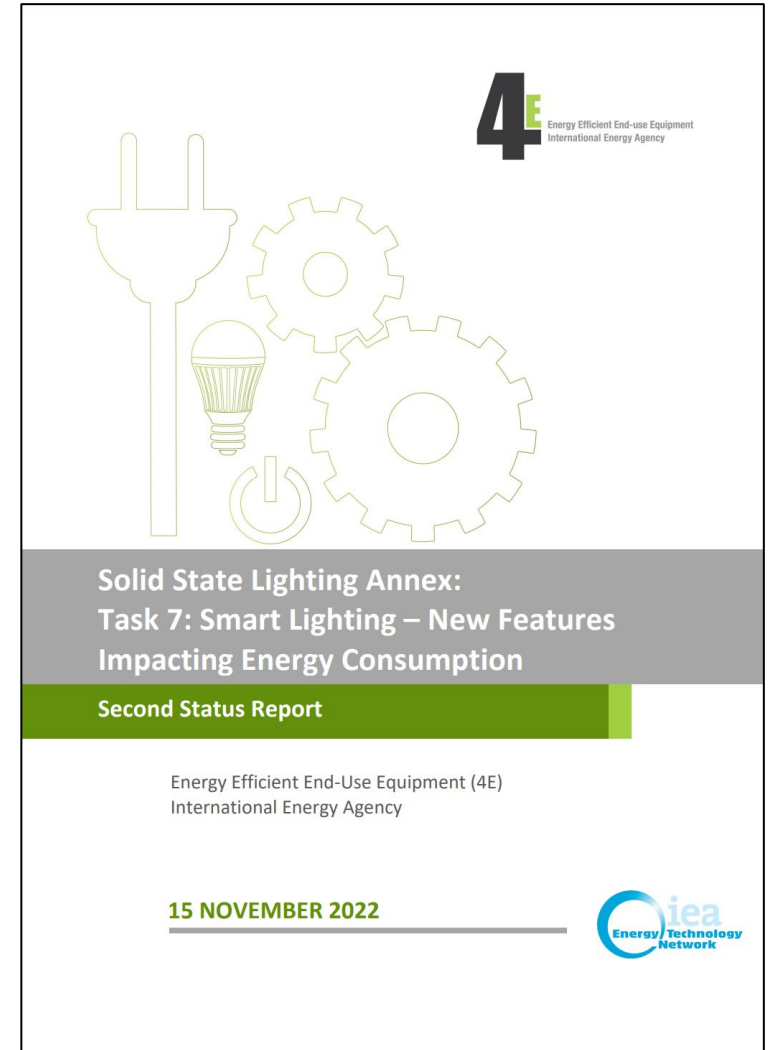
# Establishing Resource Efficiency Requirements for Products

- Set requirements in accordance with the principles of the circular economy
- Climate impact expressed as kg CO<sub>2</sub> per some suitable normalising parameter, maybe total lumenhours, or hours (lifetime)
  - inspired by the current draft regulation for PV-panels in EU (kg CO<sub>2</sub>/total generated kWh)
- Degree of repairability (light sources, control gear), upgradeability, recyclability



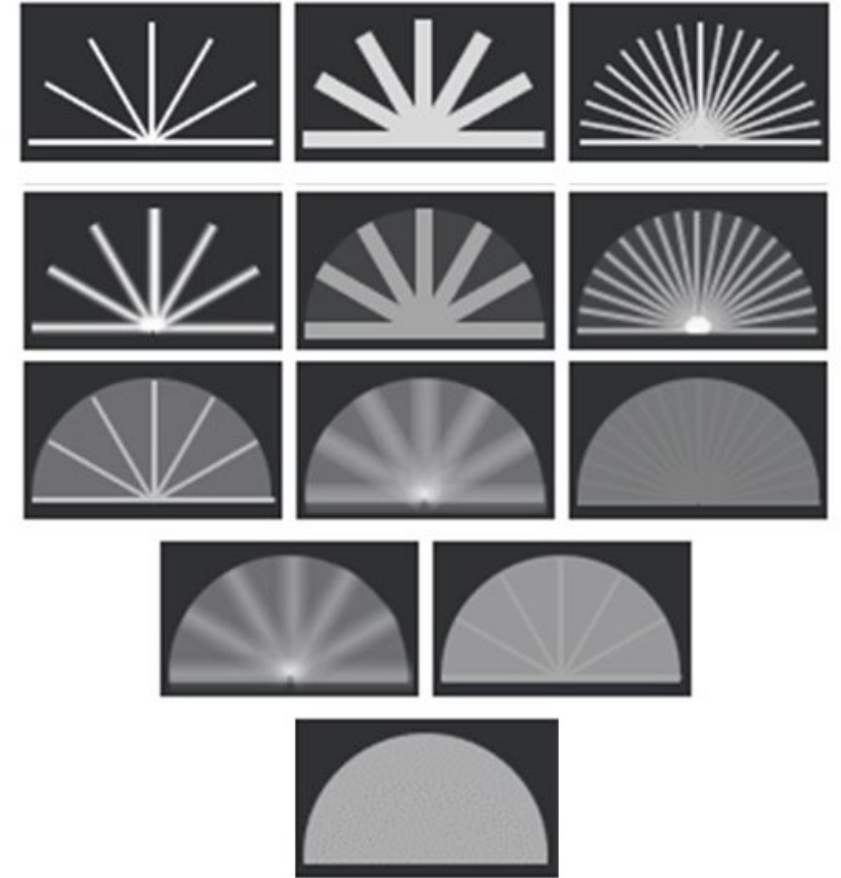
# More Stringent Requirements on (Networked) Standby Power

- In 2016, the SSL Annex recommended 0.5 Watts as the maximum standby power
- This was adopted by US Energy Star, EU Ecodesign, several African countries and proposed in Australia/NZ
- In 2019, California adopted 0.2 W and in 2022 had 558 certified smart lighting
- Report provides all the context and justification
- Prepare a short memo recommending 0.2 watts



# TLM (Flicker) Requirements Memo

- Based on Task 1 findings – Christophe / Jennifer / Sarah, prepare memo with recommendations to the Commission on more stringent requirements
- Include test results from SVM testing in Sweden: 500+ products
- Investigate how dimming affects flicker and make recommendations on requirements



(c) setting more stringent requirements on flicker and stroboscopic effects, while extending them to separate control gears;

(d) setting requirements on dimming, including the interaction with flicker;



# Memo on Setting Lifetime Requirements

- Underscore the importance of having lifetime requirements in Ecodesign
- Summarise research findings from on-going Task 2 activities on accelerated lifetime testing (Australia, Sweden) as well as other work conducted (Denmark)
- Investigate potential to purchase LED lamps across Europe to conduct lifetime testing (January 2024 – Lifetime Testing Summit)
- Consider opportunity of having Prof. Narendran in Sweden, May 2024



# Plan for Task 5 ... Five Deliverables

1. Colour metrics report, recommending  $u^*v^*$ , Duv, circles, chromaticity centre-point and compliance conditions, and a new colour rendering metric (TBD) – Yoshi, Steve, Jiaye, Mike
2. Resource efficiency requirement recommendation
  - Guidance on appropriate requirements and metrics; include Stockholm case study
3. Standby power recommendations memo
  - Based on Task 7 findings - Casper's recent Second Report
4. TLM (Flicker) recommendations memo
  - Based on Task 1 findings – Christophe / Jennifer / Sarah
  - Include results from SVM testing in Sweden: 500+ products
  - Investigate whether dimming-flicker can be included
5. Lifetime testing contribution
  - Existing data from Australia, Denmark and Sweden
  - Meeting in Jan 2024; lab testing work into Fourth Term







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# IEC 63221 Ed.1 LED Light Sources – Performance Requirements

- Mark Duffy informed Yoshi that:
- IEC SC 34A Committee is developing a new standard IEC 63221 to replace the IEC 62612.
- Either (x,y) or (u',v') chromaticity coordinates are supported
- CCT and Duv are also supported
- CRI is still linked to the Ra
- He is not aware of any proposals to use the ANSI/IES TM-30 metric

IEC 63221 ED1

LED Light sources – Performance requirements

**Remark:**

Changed of the 2nd CD target date as decision 7/2020 of 34A/2221/DL

**Related documents:**

34A/2262/DL

 74 kB

## Related Projects

Is Merged Into - [IEC 63221/FRAG2 ED1](#)

Is Split From - [IEC 63221/FRAG3 ED1](#)

## Initial Project Plan

Committee	Enquiry	Approval	Publication
2019-03-31	2020-03-31	2021-03-31	2022-03-31

## Up-to-date Project Plan

Committee	Enquiry	Approval	Publication
2022-12-30	2023-12-29	2024-12-27	2025-03-28