# ECE TYPE-APPROVAL CERTIFICATE

Communication concerning approval granted of a type of special warning lamp for motor vehicles, pursuant to Regulation No. 65

E5 Approval No: E5*65R05/12*0115*00

| | | | |
|---|---|---|---|
| 1. | Special warning lamp | : | directional flashing lamp amber |
| 2. | Special warning lamp has | : | one level of intensity |
| | Special warning lamp consists of | : | 6 separate LEDs |
| 3. | For special warning lamps having two levels of intensity, indicate the system used to obtain increased intensity at daytime | : | Internal control unit |
| 4. | Used light source | : | LED |
| | Light source module specific identification code | : | 452870XXA |
| 5. | Rated voltage of special warning lamp | : | +10-30 VDC |
| 6. | Trade name or mark | : | Special warning lamp 452870XXA-XA1 |
| 7. | Manufacturer's name and address | : | Standby AB<br>Nohabgatan 12C<br>461 53 TROLLHÄTTAN |
| 8. | If applicable, name and address of manufacturer's representative | : | Not applicable |
| 9. | Submitted for approval on | : | September 2025 |
| 10. | Technical Service responsible for approval tests | : | RISE Research Institutes of Sweden AB |
| 11. | Date of report issued by that Service | : | 03 September 2025 |
| 12. | Number of report issued by that Service | : | 105105-1321973-1 |

**Swedish Transport Agency**
Road and Rail Department
Type Approvals
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SWEDISH APPROVAL AUTHORITY TRANSPORT STYRELSEN

| | | | |
|---|---|---|---|
| 13. | Approval | : | granted |
| 14. | Reason(s) of extension (if applicable) | : | Not applicable |
| 15. | Place | : | Borlänge |
| 16. | Date | : | 14 October 2025 |
| 17. | Signature | : |  Anders Bodving<br>Type Approval Certification Officer |

18. The list of documents filed with the administration service which has granted approval and available on request is annexed to this communication:
Information document
Test report

**Swedish Transport Agency**
Road and Rail Department
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SWEDISH APPROVAL AUTHORITY
TRANSPORT STYRELSEN
SVENSK GODKÄNNANDEMYNDIGHET

**Manufacturer:** Standby AB

**Type**: Special warning lamp 452870XXA-XA1

**Type identification:** 452870XXA

**Colour:** Amber

**Category:** X

**Class:** Amber Class 1

**Power supply:** +10-30 VDC

**Light source:** LED Amber, tinted lens

**Control unit:** Internal

**Type of marking:** See document X 452780XXA.PDF

**Manufacturer name and address:**

Standby AB
Nohabgatan 12C
461 53 TROLLHÄTTAN

**Address to assembly plant:**

Standby AB
Nohabgatan 12C
461 53 TROLLHÄTTAN

**Appendix:**

RISE Report number: 105105-1321973 Type testing of special warning lamp according to R65



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**REPORT**

Date 2025-09-03 Reference 105105-1321973-1 

Standby AB
Nohabgatan 12 C
461 53 TROLLHÄTTAN

# Type testing of special warning lamp according to ECE R65

(4 appendices)

## Test object

- Special warning lamp L52 Amber Horizontal Tinted

RISE Research Institutes of Sweden AB is appointed Technical Service by the Swedish Transport Authority, and has in this capacity performed type testing of your Special warning lamp 452870XXA XA1, in accordance with ECE Regulation No. 65, supplement 12 to the original version of the Regulation (rev 2, Amend. 5; 22 November 2023).

## Summary of results

The tested LED special warning lamp 452870XXA XA1 fulfils the requirements for amber (A), category X, Class 1, in accordance with ECE R65:2023.

## Identification

Your reference: Fredrik Eriksson
Manufacturer: Standby AB

Type: Special warning lamp 452870XXA XA1
Product drawing: G452870XXA
Marking drawing: X452870XXA
Technical descriptions: TD452870XXA
Bill of material: K452870XXA

See photos in Appendix 4.

## Manufacturer specification of the light source

The light source 452870XXA XA1 consists of six LEDs behind a tinted lens.

Rated voltage: +10 – 30 VDC, nominal test voltage +13.5 V.

## Measurement method

The measurement method follows RISE method no. 361. The light source is connected to +13.5 VDC in accordance with the manufacturer directive.

One blinking mode according to the manufacturer was used. The light source has one level of intensity and the corresponding Night requirements are used.

## Measurement equipment

Photogoniometer SP 501295
Spectrometer RISE BX70823
Oscilloscope RISE KWP16539

## Measurement date

June, 2025.

## Uncertainty of measurement

Luminous intensity: ±5 % of reading
Repetition frequency: ±0.1 Hz
Chromaticity coordinates: ±0.005
Pulse length: ±5 % of reading

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95 %. The standard uncertainty of measurement has been determined in accordance with EAL Publication EA-04/2.

With regards to statements of conformity, a decision rule based on simple acceptance in accordance with JCGM 106:2012 is applied.

## Results

Results are presented in paragraphs corresponding to ECE R65.

**5 General requirements**

5.1 Resistance to vibrations.
Judged to fulfil the requirements.

5.2 Resistance to maladjustment.
Judged to fulfil the requirements.

5.3 Light source fixing.
Judged to fulfil the requirements.

5.4 Light source module design.
Judged to fulfil the requirements.

5.5 Light source power supply.
Judged to fulfil the requirements.



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5.6 Light source frequency of blinking.
The light source frequency of blinking fulfils the requirements, see Table 1 and A5.6 – 7.

**Temperature test**
The temperature behaviour of L52 was tested and reported in MTk5P04657-4.
Not tested.

**Rain test (Annex 4)**
The rain test behaviour of L52 was tested and reported in MTk5P04657-4.
Not tested.

*Table 1. Flash pattern timing.*

| Sample | Test conditions | Flash frequency (Hz) | Note |
|---|---|---|---|
| **452870XXA XA1 sample 1** | *V* = +10,8 VDC | 2.0 | Fulfils ECE R65 |
| | *V* = +13,5 VDC | 2.0 | |
| | *V* = +28,0 VDC | 2.0 | |
| **452870XXA XA1 sample 2** | *V* = +10,8 VDC | 2.0 | Fulfils ECE R65 |
| | *V* = +13,5 VDC | 2.0 | |
| | *V* = +28,0 VDC | 2.0 | |

5.7 Agreement between optical systems.
See A5.8.

5.8 Multiple colours.
Not applicable.

5.9 Flash patterns.
Only one programmed flash pattern is available.

**6 Photometric requirements (Annex 5)**

A5.5 Intensity stability
The effective luminous intensity changed less than 5 cd during 30 minutes of operation.
The light source fulfils the requirement.

A5.6 – 7 Pulse width, frequency, and luminous intensity

The pulse train period is 496 ms (f = 2.0 Hz). The train “ON” time is 196 ms in length (< 0.4/f) and consists of one 134-ms pulse followed by one 42-ms pulse; the two pulses are separated by 20 ms. The “OFF” time is 300 ms (> 0.1 s).

The light sources fulfil the category X, class 1 (amber) requirements regarding minimum and maximum effective luminous intensities. See also diagrams in Appendix 2 and tables in Appendix 3.

**A5.8 Multiple optical systems**
Not applicable for category X.



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**7. Colour (Annex 3)**

| Sample | x | y | Note |
|---|---|---|---|
| **452870XXA XA1 sample 1** | 0,5721 | 0,4214 | Fulfils ECE R65 |
| **452870XXA XA1 sample 2** | 0,5707 | 0,4205 | Fulfils ECE R65 |

The colour of the light source fulfils the requirements of ECE R65, see plot in Appendix 1.

## Remark

The measured values reported are valid only for the units under test.

**RISE Research Institutes of Sweden AB**
**Measurement Science and Technology - Time and Optics**

Performed and reviewed by

Mikael Lindgren

**Appendices**

Appendix 1: Colour plots

Appendix 2: Pulse diagrams

Appendix 3: Measurement results effective luminous intensity

Appendix 4: Photos of units under test.



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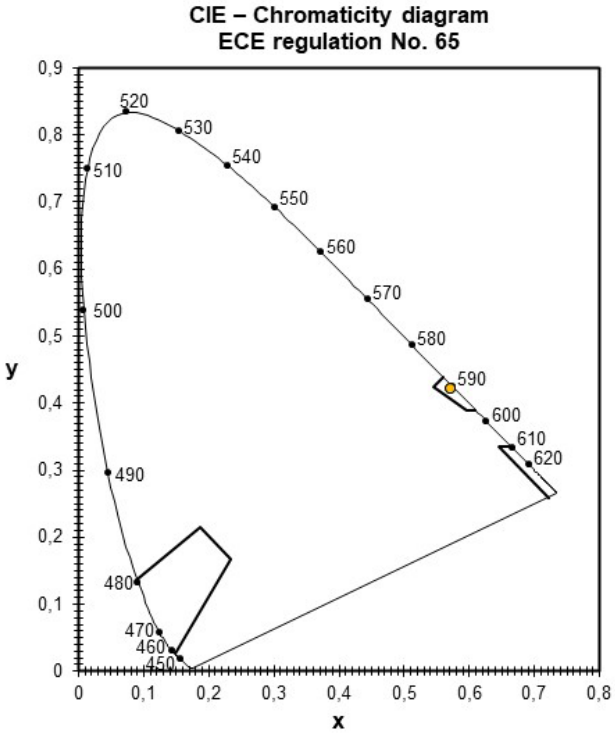
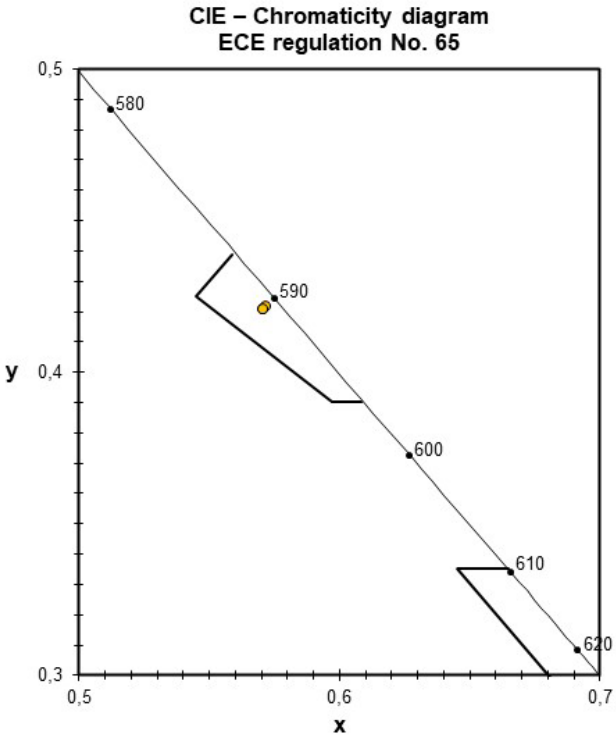
Appendix 1: Colour plots



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Appendix 2: Pulse diagrams

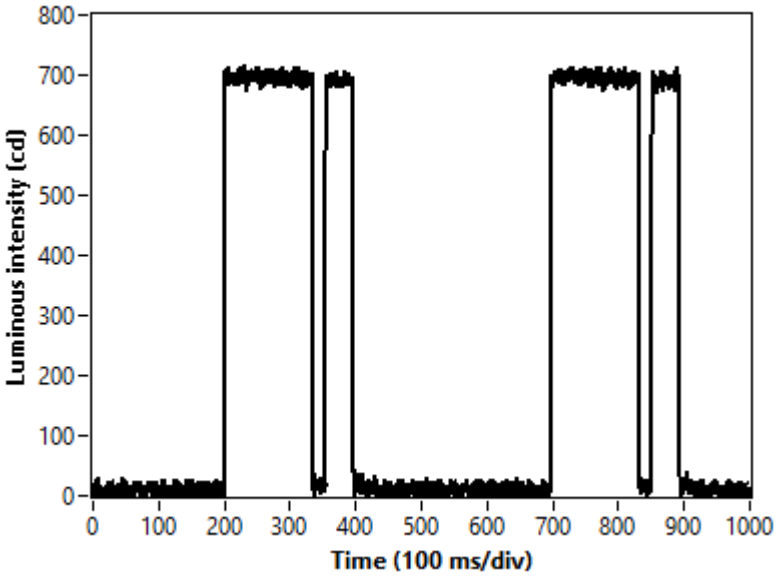


*Figure A2.1. Pulse diagram for 452870XXA XA1*



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Appendix 3: Measurement results effective luminous intensity

1321973 L52th XA1-1 F2 N.txt

| Vertical angle (deg) \ Horizontal angle (deg) | -30 | -20 | -10 | 0 | +10 | +20 | +30 |
|---|---|---|---|---|---|---|---|
| -8 | | | 206 | | 207 | | |
| -6 | | 222 | | 251 | | 219 | |
| -4 | 142 | | 303 | | 318 | | 146 |
| 0 | 159 | 296 | | 334 | | 297 | 166 |
| +4 | 132 | | 302 | | 313 | | 148 |
| +6 | | 215 | | 252 | | 221 | |
| +8 | | | 203 | | 206 | | |

*Table A3-1. Effective luminous intensity for 452870XXA XA1, Sample 1*

1321973 L52th XA1-2 F2 N.txt

| Vertical angle (deg) \ Horizontal angle (deg) | -30 | -20 | -10 | 0 | +10 | +20 | +30 |
|---|---|---|---|---|---|---|---|
| -8 | | | 196 | | 193 | | |
| -6 | | 224 | | 237 | | 214 | |
| -4 | 151 | | 299 | | 290 | | 140 |
| 0 | 169 | 298 | | 318 | | 297 | 163 |
| +4 | 149 | | 304 | | 293 | | 145 |
| +6 | | 217 | | 244 | | 221 | |
| +8 | | | 199 | | 199 | | |

*Table A3-2. Effective luminous intensity for 452870XXA XA1, Sample 2*

Appendix 4

Appendix 4: Photo of units under test.



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# Verifikat

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## Dokument

**105105-1321973-1 Type testing of special warning lamp according to ECE R65**
Huvuddokument
8 sidor
Startades 2025-09-03 15:31:46 CEST (+0200) av Mikael Lindgren (ML)
Färdigställt 2025-09-03 15:32:18 CEST (+0200)

## Signerare

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