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Date: 2011-09-27

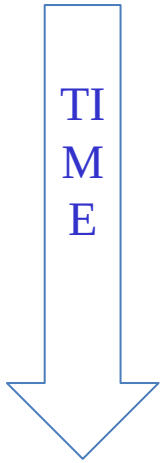
GTB Working Group
Light Sources

Status September 2011

CONTENT

Light source work items in the pipeline

- TF LED light sources
- WG Light Sources
- GTB CE
- GRE
- WP.29
- Awaiting enforcement

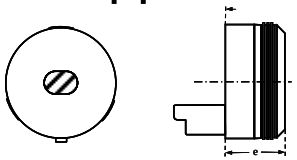


Request for guidance

- Replacement Light Sources and Compliance

TF LED light sources

- New category LW2: white; light guide application



- New category LR3: red; cost effective design

- Start developing head lighting applications
  - Body text of the regulation
  - New categories suitable for R19 and R113

WG Light Sources

- P15/5W and PR15/5W: India; awaiting IEC cap design

Other organizations

- Non-replaceable filament lamps testing (ad hoc group GRE DE)
  proposals to amend UN signal lamp regulations, IEC60809, IEC60810
- IEC 60061: cap/ holders for LR1, D5S, H16*, H17, P(R)15/5W
- IEC 60809: Removal of sheets that are in R37, R99
- IEC 60810: Test requirements for LED light sources
- IEC 60810: Test requirements for LED components
- IEC 62471: Photo-biological safety of lamps and lamp systems
- IEC Solid state lighting standards
  - IEC/PAS 62707, Part 1 white colour binning

* holder only

GTB CE

- R37 set 3 phasing out of categories
  H12, H13A, HIR1, HB3A, HB4A, HS6, PR21/4W, PR27/7W, T1.4W, WY2.3W

United Nations

GRE

- R37 introduction of category H17
- Update of the criteria tool
  Evaluation criteria that are applied to filament lamps of normal production

WP.29

- New Regulation for LED Light Sources
- R37 draft Supplement 38: Set 2 phasing out of categories
  H14, S3, all 6V
- R99 draft Supplement 7: introduction of D5S, D6S, D8S

United Nations

Awaiting enforcement [28-10-2011]

- R37 draft Supplement 37:
  - Set 1 phasing out of categories
    P19W, PC16W, PCR16W, PCY16W, PR19W, PR24W, PSR19W, PSR24W, PY19W
  - Introduction of voltage controlled dual halogen H9 and H9B
  - Introduction of definition of filament light source

Request for guidance

Replacement Light Sources and Compliance

During GRE 65, GTB WG LS commented:

"Considering requirements to approved light sources:

(Enforcement in) the aftermarket is it well defined?"

Type approval <-> In use requirements

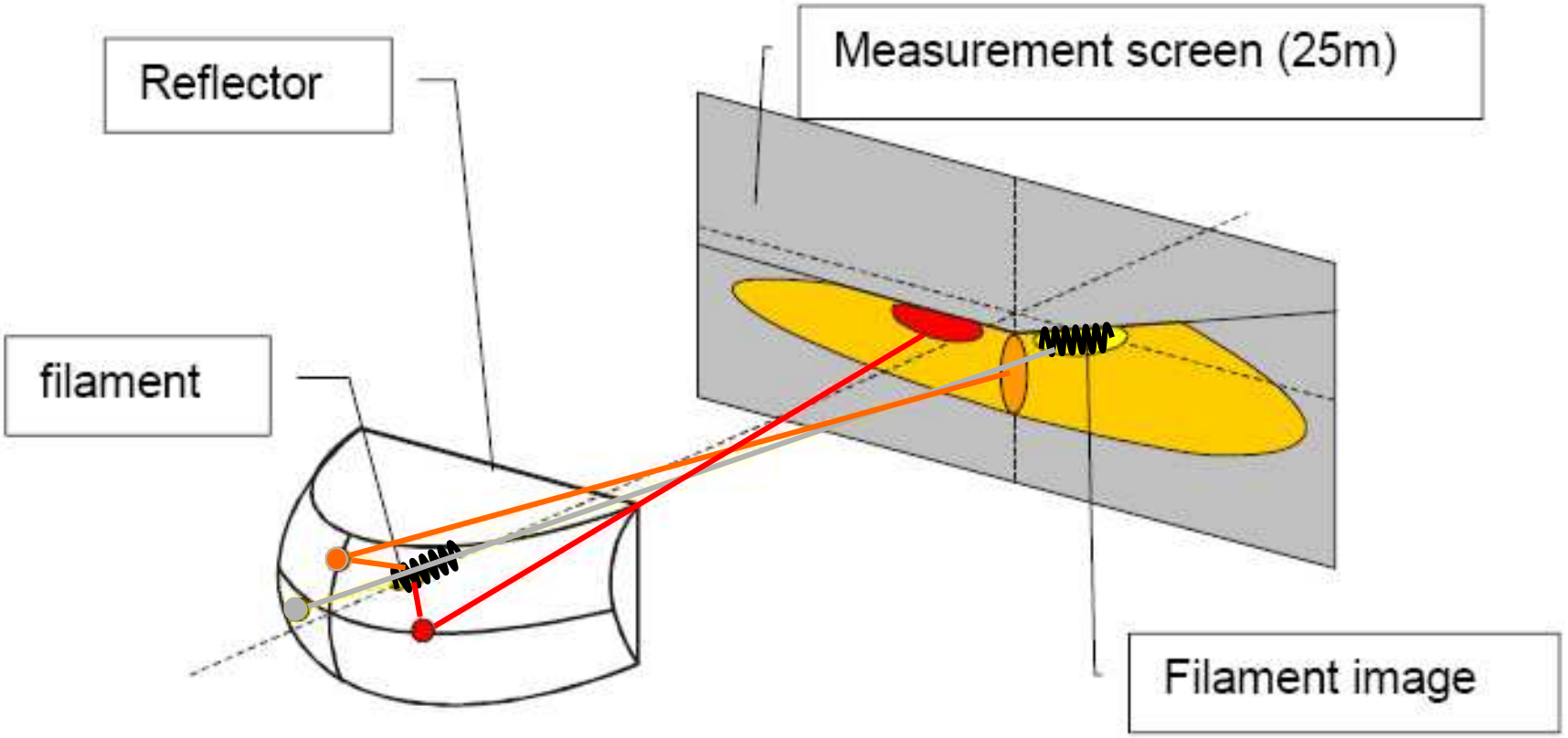
Bringing (mass production) vehicles on the road

- Well defined
- Globally harmonized more and more
  - UN Regulations for contracting parties
    - EU
  - More and more countries following the UN Regulations
  - (FMVSS)
- National law

Once on the road

- National law
- Very divers
  - Some countries refer to UN Regulations
  - Some countries do not forbid selling non-approved components but forbid application (except for off road use)
  - Some countries do not forbid sales nor application of non-approved components

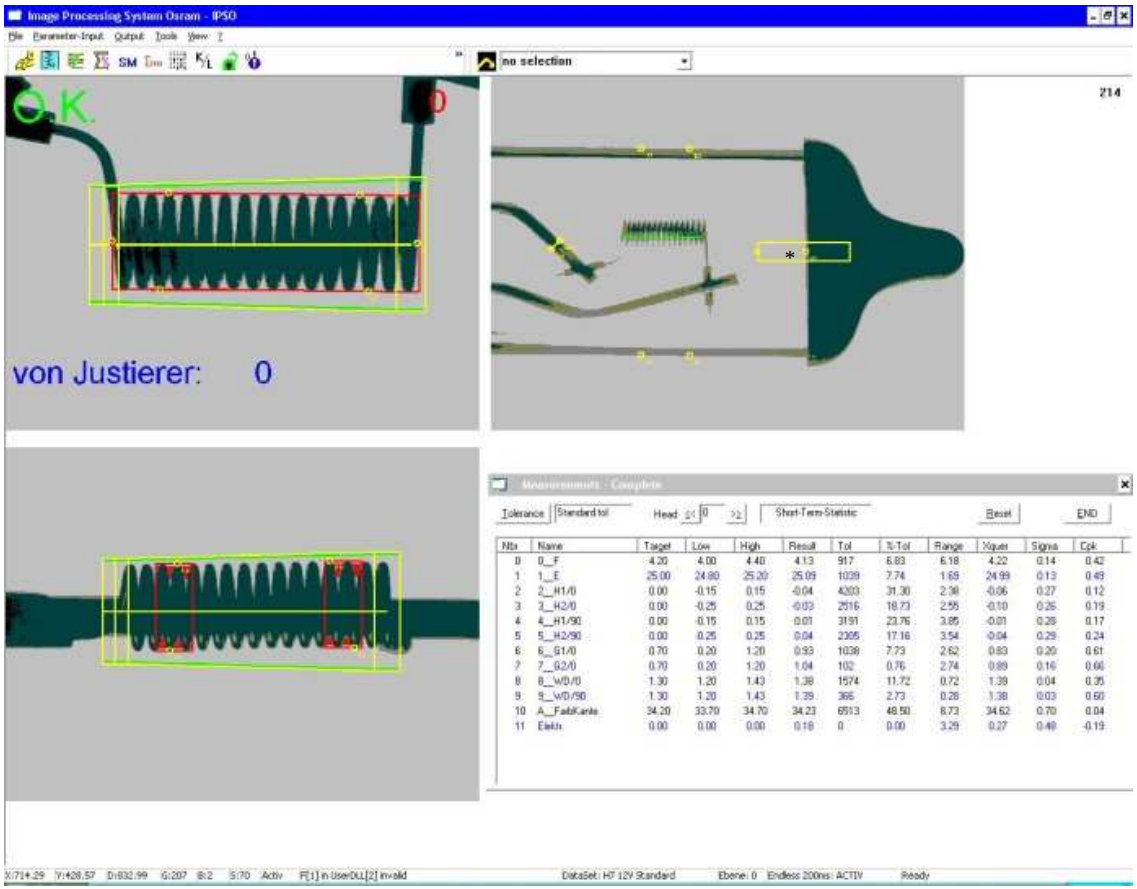
Principle of beam formation



“Good” bulbs

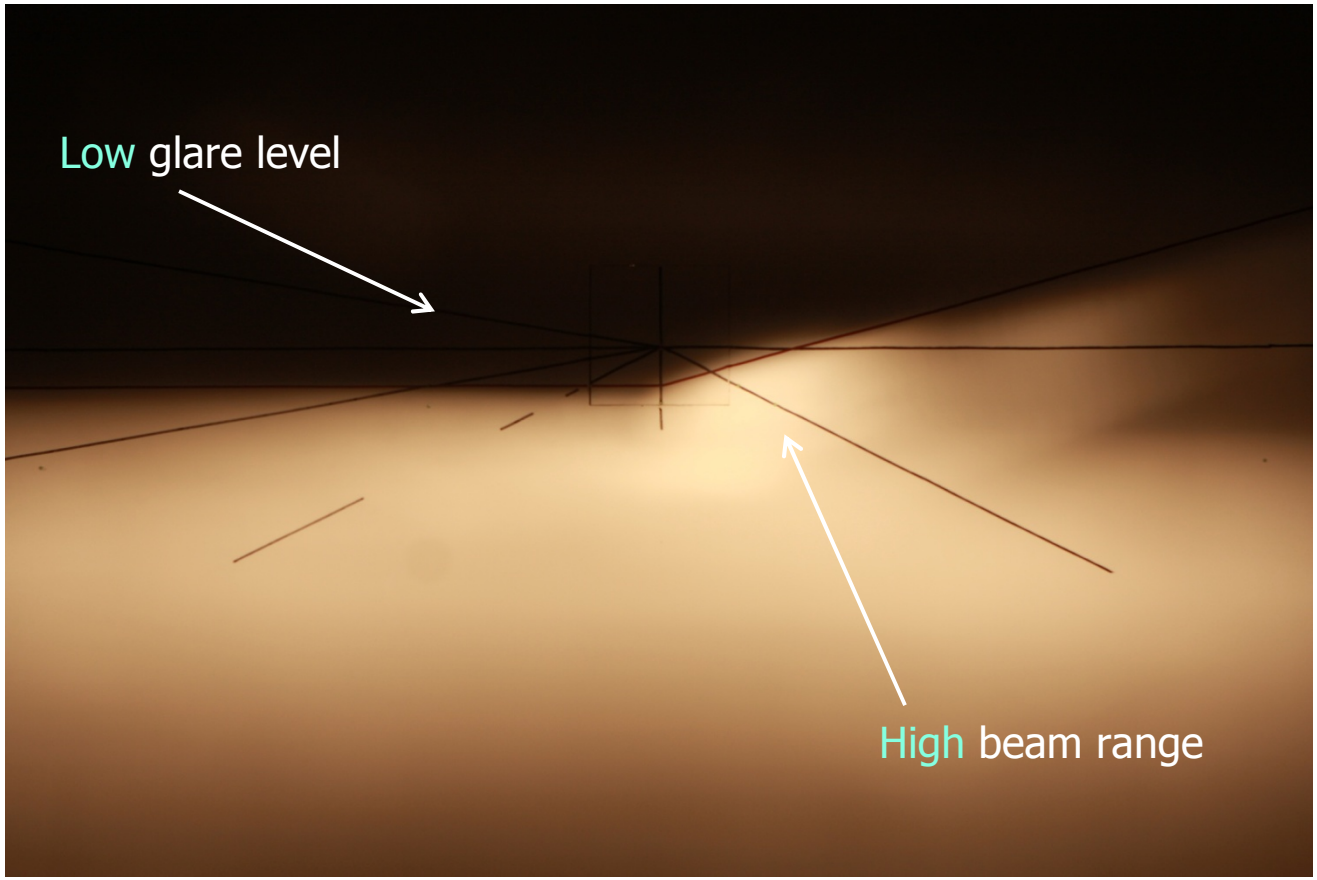
Illumination – Position of Filament

"Good"



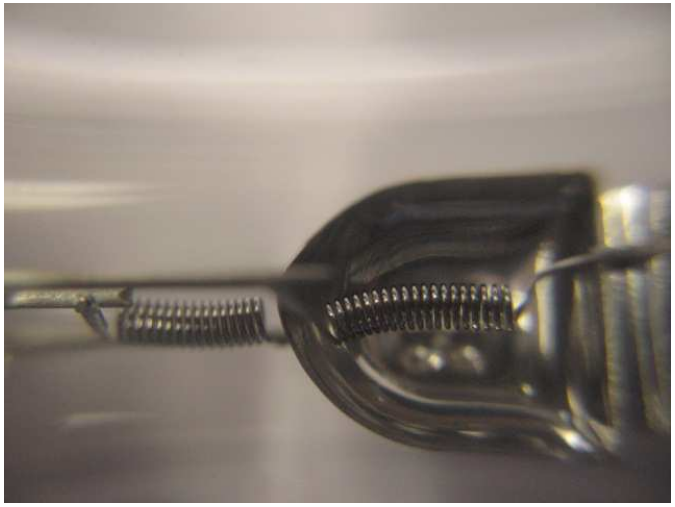
*yellow tolerance box in drawing corrupted

"Ideal" beam pattern



* Projected colour may deviate from original due to electronic media

“Bad” bulbs

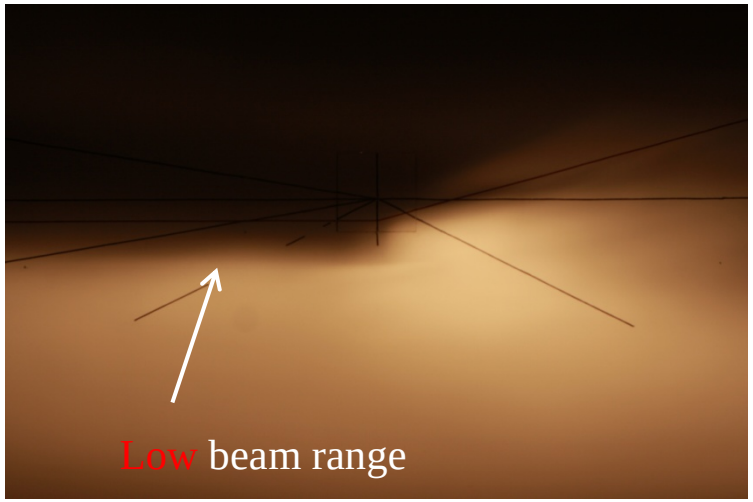


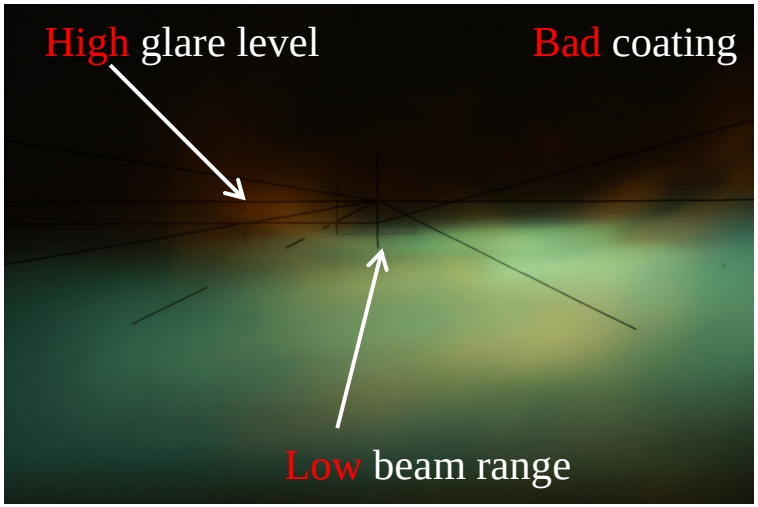
Illumination – Position of Filament

"Bad"

*yellow tolerance box in drawing corrupted

“Bad” beam pattern





* Projected colour may deviate from original due to electronic media

Example

H7 Bulb Test in Country X*

Production location	Import to EU			EU	
	#1	#2	#3	#4	#5
E-Mark	Yes**	Yes**	Yes**	Yes	Yes
Sample size	30	29	10	50	470
Visual check					
Geometry	27 out of 30 FAILED	28 out of 29 FAILED	9 out of 10 FAILED		
Photometry	9 out of 30 FAILED	15 out of 29 FAILED			
UN compliance					

no failures or within tolerance

up to 50% of sample size was out of tolerance

more than 50% of sample size was out of tolerance

•EU Contracting party to 58 Agreement

** Real or fake?

Probable effects

- increased glare
- not enough illumination of the road (front lighting)
- insufficient visibility (signalling)
- melting of plastic
- risk for explosion of the lamp

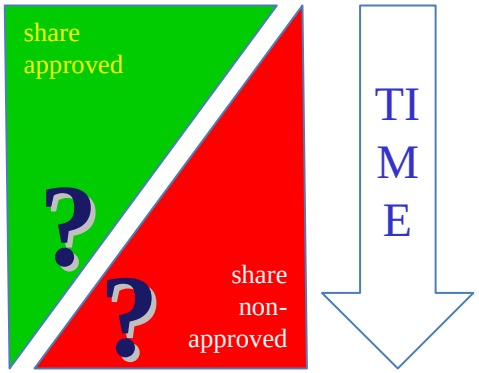
Possible ultimate consequence

Non-approved and/or sub standard components

may cause

melting away

approved and up to standard components



because those non-approved components are cheaper.....

And how about these?

all equipped with an IEC cap in use by approved R37 light sources

LED retrofit in front lighting

example

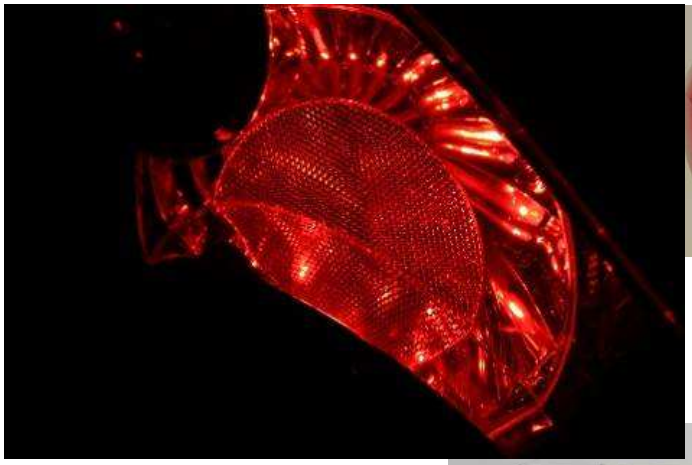
looks cool

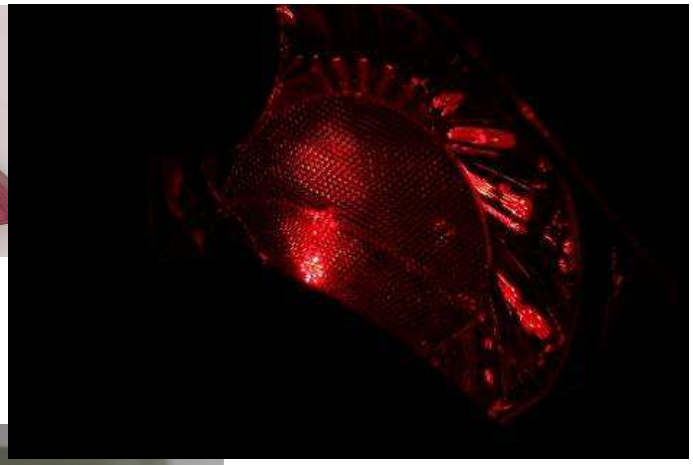
but can't see

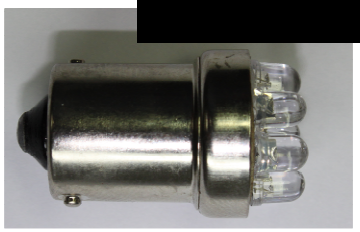
- Luminous output: 1100lm vs. 67lm
- Color of light: 3200K vs. 9300K (outside boundaries for white)
- Emitter size: 4mm vs. 20mm
- Intensity distribution: circular vs. non-symmetrical

LED retrofit in signalling

example







- Luminous output: ok vs. not sufficient
- Red color: ok vs. ok
- Emitter size: 4mm vs. 12mm (too large)
- Intensity distribution: ok vs. does not fit to optical system

Request for guidance

Searching for a clue on how to tackle this issue

WP.29 June 2011 Report

Agenda items that **might** give a clue for a start of resolving this issue

VI.C. Development of an International Whole Vehicle Type Approval (IWVTA) system

- Revision of 58 Agreement
- Road map for changes needed

VIII. Exchange of views on national/regional rulemaking procedures and implementation of established regulations/gtrs into national/regional law

- No new information

Could

Replacement Components and Compliance

fit in these WP.29 agenda items?

WP.29 June 2011 Report

Agenda items that might give a clue for a start of resolving this issue

K. Exchange of information on enforcement of issues regarding defects and not compliance (agenda item 8.11)

" 84. The World Forum agreed in principle with proposal by the representative of the United States of America for setting up an informal group for governmental representatives only to exchange views on enforcement issues regarding procedures and actions related to safety and environmental defects and not compliance. Government representatives were invited to confirm their intention to participate in such an informal group by the end of July 2011, ..."

Could
Replacement Components and Compliance
fit in this WP.29 agenda item?

EU framework directive 2007/46/EC

"***Article 28***

1. Member States shall permit the sale or entry into service of components or separate technical units if ***and only*** *if they comply with the requirements of the relevant regulatory acts and are properly marked in accordance with Article 19.*
"

Does this **really** mean that light sources,

- not compliant and/ or not properly marked,
- possibly not explicitly presented as automotive products,
- but nevertheless intended for and fitting in approved holders,

are being **banned**?

This is mainly question for EU/ -countries, but could a provision like this article 28 serve as example for provisions in UN Regulations?

Referencing to UN Regulations

Though the 58 Agreement is about mutual recognition of type approval,

it looks like some countries refer to the UN Regulations for in-use compliance.

For those and perhaps more countries:

Would it be helpful for national "in-use" legislation if

- approval of the device in UN regulations remains valid only if
  - (replaceable) approved/ E-marked light sources are used for which the devices were approved?

Request for guidance

1. **Could** *Replacement Components and Compliance* **fit in the WP.29agenda?**
   a. Development of an International Whole Vehicle Type Approval (IWVTA) system
   b. Exchange of views on national/regional rulemaking procedures and implementation of established regulations/gtrs into national/regional law
   c. Exchange of information on enforcement of issues regarding defects and not compliance

2. **Would insertion of a requirement in device regulations be helpful?**
   a. approval of devices is only valid if light sources are used for which it has been approved

3. **Other or better suggestions?**

THANK YOU