GTB Working Group
Light Sources

Status March 2014
Content

1. Light source work items in the pipeline

2. Proposals that may be expected in GRE-72
Light source work items the pipeline

To support WG LS and accelerate specific topics that need specific knowledge
- Development of criteria for LED categories for head lighting, focus on contrast requirements
- Feasibility of LED retrofit, equivalence criteria, failure detection
  - Development of LWx for headlighting
  - Feasibility of LED retrofit, administrative requirements
  - Development of category LR3(A/B), LR4(A/B)
  - Development of H18, H19, H20
  - Development of D8R and [short arc for ADB appl.]
- Consideration of IEC items
  - Awaiting insertion in a package
  - Determination of filament length
  - Corrections in the notes to group III and PR27/7W

Awaiting enforcement
- R37
  - WT(Y)21W, WT(Y)21/7W
  - Update ref’s to IEC and CIE publications
  - R37, R99, R128
  - Extending approval numbering combinations
  - R48
  - Road replacement

Enforced:
- R37
  - PY21/5W (dual amber filament)
  - Colour measurement of halogen signalling light sources
- R128
  - LW2
  - Editorial updates

Idea
- GTB WG LS TF LED
- GTB WG LS
- GTB
- GRE
- WP.29

Enforcement
- IEC SC 34B (Caps, holders and gauges)
- IEC SC 34A (Light sources)

IEC 60061: Caps and holders for new categories
  - Colour endurance test for dual filament light sources
  - Non-replaceable filament lamp requirements
    - Colour measurement of halogen signal light sources
    - Insertion of LED light source performance requirements (as in R128)
    - Update references to light source sheets R37, R99, R128
  - Test requirements for LED components
  - Update test requirements of HID light sources
  - Update of minimum lifetime requirements

GTB Document CE-4991
Proposals that may be expected in GRE72
Theoretical technology curve

- Research
- Learning
- Maturity
- Consolidation
- Phasing out

Time

Not on scale
Innovation

Filament  Halogen  HID  Laser-LED  OLED  ???

GTB Document CE-4991
Outlook?

Share per technology

Time

Halogen/ Filament

HID

LED

OLED?

Laserled?

Not on scale
Technology curves?

- Halogen (HL)
- Filament (SL)
- Old Type
  Phasing out
- New Type
  “State-of-the-art”

Not on scale
R37

H18  High flux low beam filament lamp
- 1700lm @ 69W max
- H7 tolerances level
- Built-in space for headlamps is reduced

H19  High precision dual filament lamp
- 1650lm/1000lm @ 59W/53W max
- H17 tolerances level
- Designed for today’s complex-shape optics
  (to replace H4 1650lm/1000 lm @ 75W/68W max)

H20  5000K high beam lamp
- 1250 lm @ 75 W max
- To avoid confusion when
  » high and low beam are operated together
  » when halogen and LED technology is combined
### Status of phasing out

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*7 6 V types only
*8 Only for use in signalling lamps, cornering lamps, reversing lamps and rear registration plate lamps

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R99

• D8R
  – 1900 lm @ 25W ± 3W
  – Version of D8S for reflector optics
• [Short arc, high luminance 35W HID for ADB systems]
R128

- **LR3**
  - Low cost, single level (circuit) red
  - 80 lm @ 3.5W
  - LED performance similar to PR21W filament lamp (110 lm @26.2W)
- connector
  - LR3A elbow
  - LR3B straight

- **LR4**
  - Low cost, dual level (circuit) red
  - 80 lm/ 5 lm @ 3.5W/ 0.75W
  - LED performance similar to PR21/4W filament lamp (105 lm/ 4 lm @ 26.5W/ 5.5 W)
  - LED performance similar to PR21/5W filament lamp (105 lm/ 8 lm @ 26.5W/ 6.6 W)
- connector
  - LR4A elbow
  - LR4B straight
END