

# Evolution of the system

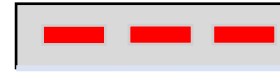
## Basic idea for division of focus between UN "installation" and "device" Regulations

SLR-65-07

Example: Left side tail lamp, seen from top



Question: What kind of „device/lamp“ is it?



Single lamp?



D-lamp?



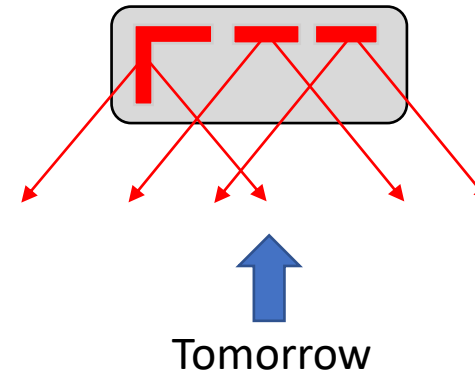
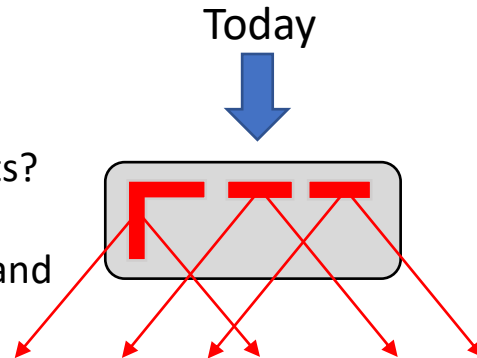
Y-lamp?

Answer: Who cares? That's the signal you see from behind



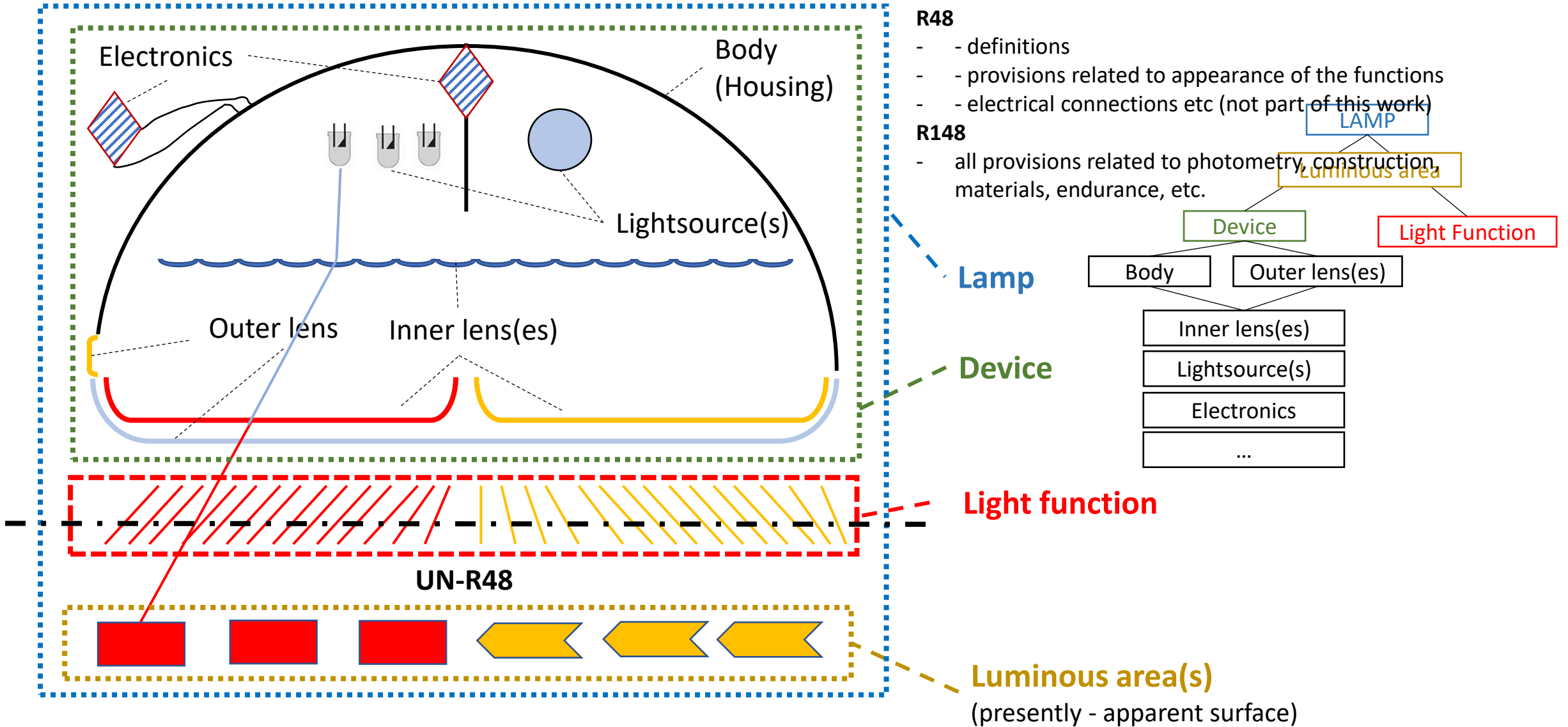
Challenge: change the perspective

- kind of device/lamp?
- installation requirements?
- requirements for parts?
- Photometry, geometry and colorimetry?



- ~~kind of device~~
- ~~installation requirements~~
- ~~requirements for parts~~
- Photometry, geometry and colorimetry
- Installation (appearance)

*Evolution of the system*  
*Basic idea for UN R48*



## *Evolution of the system*

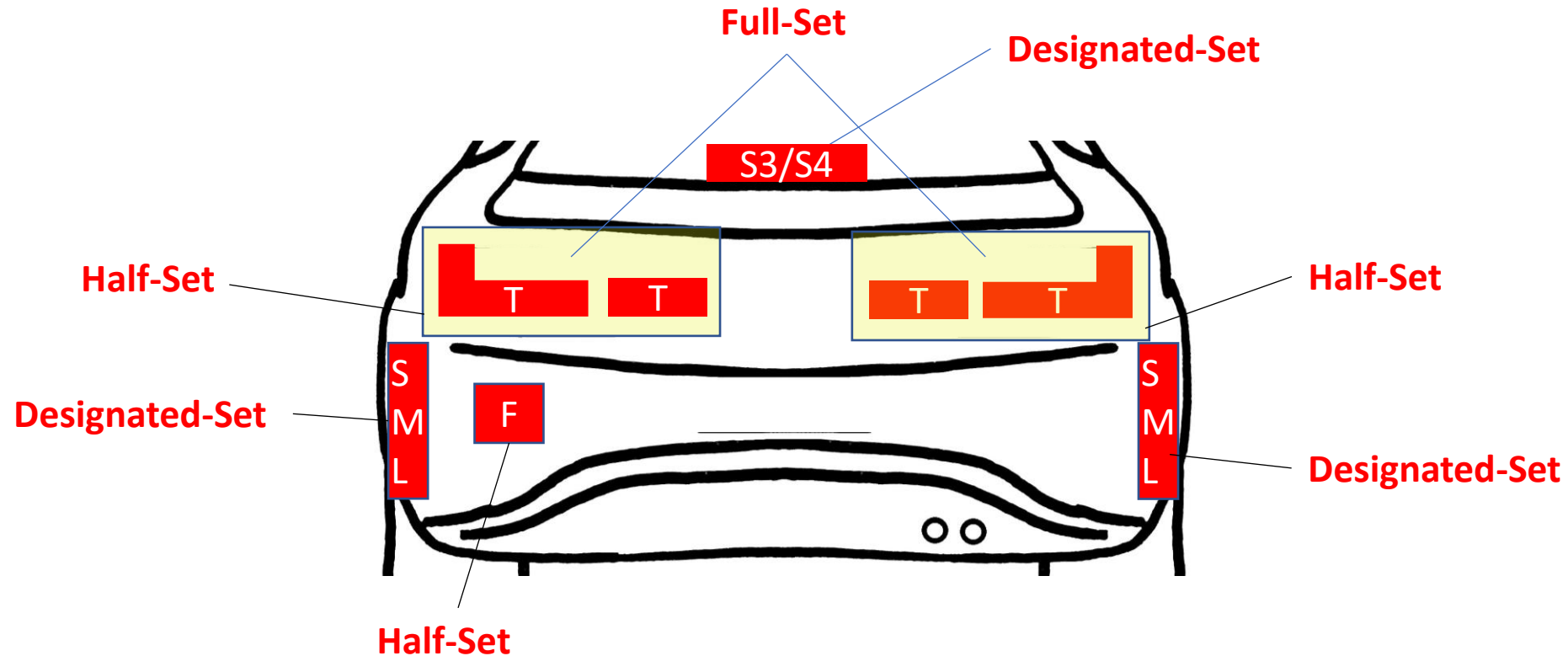
### *Basic idea for a definition update/amendment*

- [2.1.4. "Device" means an element or an assembly of elements used to perform a **specific purpose**.] (*unnecessary as dictionary definition exists*)
- 2.1.4. "Light function" means a defined photometrical, geometrical and colorimetical output of a **lamp**.
- 2.1.4.1. "Lighting function" means a **light function** to illuminate the road and objects in the direction of vehicle movement and around the vehicle.
- 2.1.4.2. "Light-signalling function" means a **light function** to give to other road users visual information on the presence, identification, size and/or the change of movement of the vehicle.
- 2.1.5. "Lamp" means a device, assembly of devices or part of a device designed to display one or more **light functions**.
- 2.10.x "Luminous area" means an [*area of visible light / apparent surface*] that contributes to a specific **light function**.
- 2.4.x. **Set of luminous areas**
- 2.4.x.1. "Half-set" means one or more **luminous area(s)** designed to display a left-hand or right-hand side of one **light function** on, respectively, the left-hand or the right-hand side of a vehicle.
- 2.4.x.2. "Full-set" means the combination of two **half-sets** (left-hand side and the right-hand side) designed to display one **light function** on the vehicle
- 2.4.x.3. "Matched-set" means the combination of two **half-sets** (left-hand side and the right-hand side), which, only as a **full-set**, comply with the photometric requirements of this **light function**.
- 2.4.x.4. "Designated-set" means one or more **luminous areas** designed to display a specific **light function** at a defined spot on a vehicle.
- 5.5. *In the absence of specific instructions lamps constituting a full-set shall:*

**Relevant definitions for describing any function on a vehicle!**

## Evolution of the system

### Basic idea for UN R48 – visualization of the definitions



- The **half-set** for the left part of the vehicle and the **half-set** for the right hand of the vehicle together form a **full-set**.
- A **designated-set** fulfils a function (for the time being SML and S3/S4 only)
- For the time being a **matched set** is only used for road illumination functions.

# Evolution of the system

## Usage of the new definitions of “set”

### 6.4. Reversing lamp:

6.4.1. Presence: Mandatory on motor vehicles and on trailers of categories O<sub>2</sub>, O<sub>3</sub> and O<sub>4</sub>. Optional on trailers of category O<sub>1</sub>.

6.4.2. Number

6.4.2.1. On motor vehicles of category M<sub>1</sub> and on all other vehicles with a length not exceeding 6,000 mm

One **half-set** mandatory

**Full-set** optional.

6.4.2.2. On all vehicles with a length exceeding 6,000 mm, except vehicles of category M<sub>1</sub>

**Full-set** mandatory

Second **full-set** optional

...

6.4.4.3. In length: at the rear of the vehicle

However, if installed, the optional **full-set (two half-sets)** mentioned in paragraph 6.4.2.2. may be fitted on the sides of the vehicle...

6.4.5.1. Devices installed at the rear of the vehicle:

Defined by angles  $\alpha$  and  $\beta$ , as specified in paragraph 2.10.7.:

$\alpha = 15^\circ$  upwards and  $5^\circ$  downwards,

$\beta = 45^\circ$  to right and to left if there is one **half-set**,

$45^\circ$  outwards and  $30^\circ$  inwards if there is a **full-set**.

6.4.5.2. The **optional full-set** mentioned in paragraph 6.4.2.2. if fitted on the side of the vehicle:

The geometric visibility is considered to be ensured if the reference axis of the respective **half-set** is directed outwards with an angle  $\beta$  not exceeding  $15^\circ$  relative to the median longitudinal plane of the vehicle. The vertical aim of the two **half-sets** may be directed downwards.

...

6.4.6.2. In addition, if the **optional full-set** mentioned in paragraph 6.4.2.2., are fitted on the side of the vehicle, the provisions of paragraph 6.4.5.2. above shall apply.

...

6.4.7.2. Moreover, the electrical connections of the **optional full-set** mentioned in paragraph 6.4.2.2. shall be such that **this set** cannot be switched ON unless the lamps referred to in paragraph 5.11. are switched ON.

The **optional half-sets** fitted on the side of the vehicle may be switched ON for slow manoeuvres in forward motion of the vehicle up to a maximum speed of 15 km/h, provided that the following conditions are fulfilled:

(a) The **optional half-sets** shall be switched ON and OFF manually by a separate control;

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