

SURFACE VEHICLE RECOMMENDED PRACTICE

J387

APR2014

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Superseding J387 APR2012

(R) Terminology - Motor Vehicle Lighting

RATIONALE

- Definitions revised & clarified from ballot
- 2.1 Cross Reference Matrix corrected
- 3.1.7 Comma removed
- 3.2.3 Revised Aiming Screws definition
- 3.2.5 Revised Cutoff definition
- 3.2.6 DRL Telltale (Indicator added)
- Removed 3.2.8 "Full Adaptive Forward Lighting System" per comment that 3.2.8 is confusing and incomplete and is covered by 3.2.2
- 3.2.13 Optical Center definition clarified
- 3.2.16 Turn Signal Indicator definition revised
- 3.3.4 Revised "Light Emitting Surface" for clarity and ballot comments
- 3.3.5 Revised "Effective Projected Luminous Lens Area" definition for clarity and ballot comments
- 3.3.9 Signal lamp ratio definition revised per ballot comments
- 3.4.1 Revised Back-up function definition
- 3.4.2 Revised Back-up definition
- 3.5.3 "Side Repeaters" eliminated in definition and changed to "Side Direction Indicators"
- 3.6.1 Parking lamps removed from DRL list of lamps.
- 3.6.5 Front Position added to title and definition revised to be consistent with the tail lamp definition
- 3.6.6 "Rear Position" added to Tail Light title and definition revised per ballot comments

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- 3.7.1 "Courtesy" added to Puddle Lamp title
- 3.8.1 Reversing added to Back Up title

1. SCOPE

This SAE Recommended Practice provides definitions of common terms used in SAE Documents pertaining to motor vehicle lighting. It covers not only basic lighting terms but also terms which identify major segments of technical reports.

2. REFERENCES

2.1 Cross Reference Matrix

Section Name	Description		Section	Page
3.1 Light Source	Light Source Definition Accurate Rated Light Source Average Rated Lab Life Design Life Design Voltage Filament Filament Bulb Filament Rotation	Gaging Standard Light Emitting Diode (LED) LED Light Source Rated Voltage Replaceable Bulb Seasoned Light Source Test Voltage	3.1.1 – 3.1.16	3 - 4
3.2 Lamp	Lamp Definition Adaptive Forward Lighting System Headlamp Aiming Screws Centroid of Lens Area Cutoff -Daytime Running Lamp Telltale Telltale (Indicator) Direct Reading Indicator Integral Beam Headlamp Lamp Area Integral Beam Headlamp	Mechanically Aimed Multiple Lamp Arrangement Optical Axis Optical Center Optically Combined Remote Reading Indicator Turn Signal Pilot Indicator Warning Light	3.2.1 – 3.2.17	5 - 6
3.3 Photometry Terms	Aiming Plane & Reference Plane Axis of Reference Light Emitting Surface -Effective Projected Luminous Lens Area	H-V Axis Light Emitting Surface Ratio-License Lamps Ratio-Signal Lamps	3.3.1 – 3.3.9	6 - 7
3.4 Signaling devices	Signaling Device Definition Backup Lamp(s) (function) -Center High Mounted Stop (function) Lamps (CHMSL) Stop, Signal Lamp (function)	-Rear Combination Lamps (RCL) Turn Signal Lamps	3.4.1 – 3.4.8	7 - 8
3.5 Supplemental Signaling Devices	Supplemental Definition Front Cornering Lamps (vehicles) Rear Cornering Lamps	-Side Turn Signal (rear & side facing, long	3.5.1 – 3.5.3	8

Section Name	Description	Section	Page
3.6 Marking Devices	Marking Device Definition -Daytime Running Light Lamps (DRL) Clearance Lamps Identification Lamps Side Marker Lamps -Parking (Front Position) Lamps Rear Fog Lamps Reflex Reflectors Tail (Rear Position) Lamps	3.6.1 – 3.6.9	8 - 9
3.7 Illumination Devices	Illumination Device Definition License Plate Lamp(s) Puddle (Courtesy) Lamps Side Facing Cargo Lamps Spot Lights Rear Facing Cargo Lamp(s)	3.7.1 – 3.7.5	9 -10
3.8 Road Illumination Devices	Back Up Lamps Headlamps: -Low (Lower) Beam -High (Upper) Beam	3.8.1 – 3.8.7	10
3.9 Supplemental Road Illumination Devices	Auxiliary High Beams Front Cornering Lamps Front Fog Lamps Rear Cornering Lamps	3.9.1 to 3.9.4	10 - 11
3.10 Test Fixture		3.10	11
3.11 Switches & Flashers		3.11	11
3.12 Unit		3.12	11
4.0 Technical Report Content	Guidelines Requirements	4.1- 4.2	11
5.1 Marginal Indicia		5.1	11

FIGURE 1 - DEFINITION MATRIX

3. DEFINITIONS

3.1 LIGHT SOURCE TERMS

3.1.1 Light Source

One or more elements emitting visible radiation, which may be assembled with one or more transparent envelopes and with a base for mechanical and electrical connection which may also be the extreme outlet of a light-guide, as part of a distributed lighting or light-signaling system.

3.1.2 Accurate Rated Light Source Unit, Bulb

A seasoned light source operated at design mean spherical luminous intensity and having its light source(s) positioned within strict tolerances as specified in the applicable standard.

3.1.3 Average Rated Lab Life

Samples obtained from production runs are tested in laboratories over long periods of time at their specified test voltage. It is meant to partially describe a manufactured product's life recognizing that individual lifetimes vary greatly. It is not the same as service life which is generally shorter due to environmental conditions such as vibration, voltage fluctuations and temperature.

3.1.4 Design Life

An operational time objective in hours of a light source at the test voltage.

3.1.5 Design Voltage

The voltage used for design purposes.

3.1.6 Discharge Bulb or Discharge Lamp

A device in which light is produced by an electric discharge through a gas, a metal vapor, or a mixture of gases and vapors.

3.1.7 Filament

A wire formed or wound into a coiled body which is heated to incandescence when voltage is applied.

3.1.8 Filament Bulb or Filament Lamp

Device in which light is produced by means of one or more filaments heated to incandescence by the passage of an electric current.

3.1.9 Filament Rotation

Any non-parallelism of either coil with respect to the centerline of design nominal filament location or any additional width of the end view of the filament in excess of the outside diameter of the first full turn.

3.1.10 Gaging Standard

A gage to calibrate filament location measuring equipment; the gage is capable of measuring to one-tenth the stated tolerance of the filament for the applicable bulb design requirement.

3.1.11 Light-Emitting Diode (LED)

A pn junction semiconductor device that emits incoherent optical radiation when forward biased. The optical emission may be in the ultraviolet, visible, or infrared wavelength regions. (ANSI definition)

3.1.12 LED Light Source

A light source made up of one or more LED's that emit visible radiation. An LED light source may or may not require an additional electronic control unit and may or may not require additional provisions for thermal management.

3.1.13 Rated Voltage

The nominal circuit or vehicle electrical system voltage classification. (Example: 12 V headlamp)

3.1.14 Replaceable Bulb

A light source with related envelope and mounting base which is removable from the head lamp or signal lamp for the purpose of replacement.

3.1.15 Seasoned Light Source, Bulb

A light source unit energized at design voltage (or current for LEDs) for 1% of its average rated lab life or 10 h maximum, whichever is shorter.