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**Terminology — Motor
Vehicle Lighting**

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TERMINOLOGY - MOTOR VEHICLE LIGHTING

1. SCOPE:

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

2. LIGHTING BASICS AND EQUIPMENT:

2.1 Bulb: An indivisible assembly which contains a source of light and which is normally used in a lamp.

2.1.1 Accurate Rated Bulb: A seasoned bulb operated at design mean spherical candle power and having its filament(s) positioned within ± 0.25 mm, and with its pins oriented within ± 5 deg of nominal design positions. Rated bulbs shall be seasoned at rated voltage for 1% of their design life or 10 h maximum.

2.2 Device: Any piece of equipment or mechanism designed to serve a specific purpose or perform a specific function.

2.3 Lamp: A divisible assembly which contains a bulb or other light source and generally an optical system such as a lens or a reflector, or both, and which provides a lighting function.

2.3.1 Multiple Compartment Lamp: A lamp which provides its lighting function using two or more separately lighted areas which are joined by one or more common parts, such as a housing or lens.

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- 2.3.2 Multiple Lamp Arrangement: An array of two or more separate lamps on each side of the vehicle which operate together for a particular lighting function.
- 2.3.3 Optically Combined: A lamp shall be deemed to be "optically combined" if both of the following conditions exist:
- It has a single or two filament light source or two or more separate light sources that operate in different ways.
 - Its optically functional lens area is wholly or partially common to two or more lamp functions.
- 2.4 Light: Visible radiant energy.
- 2.5 Light Source:
- 2.5.1 Location: The geometric center of the light emitting element.
- 2.5.2 Light Emitting Surface: "Light emitting surface" means all or part of the exterior surface of the transparent or translucent lens that encloses the lighting or light signalling device and allows conformance with photometric and colorimetric requirements.
- 2.5.3 Effective Projected Luminous Area: "Effective projected luminous area" is that area of the light emitting surface projected on a plane at right angles to the axis of a lamp, excluding reflex reflectors, (but including congruent reflexes), which is not obstructed by opaque objects such as mounting screws, mounting rings, bezels or trim, or similar ornamented feature areas. Areas of optical or other configurations, for example, molded optical rings or markings, shall be considered part of the total "effective projected luminous area," even if they do not contribute significantly to the total light output. The axis of the lamp corresponds to the H-V axis used for photometric requirements.
- 2.5.4 Centroid of a Lens Area: The geometric centroid of a plane area which is perpendicular to the axis of reference of the vehicle and upon which the projection of the light emitting lens area falls. As an example: The axis of reference for lamps mounted on the front and rear of a vehicle is the longitudinal axis of the vehicle.
- 2.6 Unit: An indivisible assembly which provides a mechanical, electrical, or lighting function, for example, sealed beam unit or flasher.
3. TECHNICAL REPORT CONTENT:
- 3.1 Guidelines: Advisory, informational or instructional statements to assist designers, installers, laboratory personnel or manufacturers in meeting the requirements in the evaluation and use of a device or component.

3.2 Requirements: Objectives to be attained in the evaluation and use of new and unused devices, manufactured using production tooling and assembled by production processes.

3.2.1 Performance Requirements: Characteristics of a device which are essential for its proper functioning, for example, color, luminous intensity, and ability to withstand vibration.

3.2.2 Design Requirements: Dimensional or physical characteristics to be attained.

The phi (ϕ) symbol is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.

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RATIONALE:

1. New format.
2. It has been deemed necessary to add (Ø) to these "new" definitions in order that they not be misused and/or misunderstood when used in SAE standards. Obviously adding them here eliminates the necessity of defining them in other standards.
3. All of these "new" definitions have at one time or another been approved with minor editorial changes.

RELATIONSHIP OF SAE STANDARD TO ISO STANDARD:

Not applicable.

REFERENCE SECTION:

Not applicable.

APPLICATION:

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

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