



SURFACE VEHICLE RECOMMENDED PRACTICE

J3098™

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Superseding J3098 JUN2017

Front Decorative Lamp

RATIONALE

Updates made as result of the SAE J-document Five-Year Review process. Since the original publication of SAE J3098 in June 2017, Battery Electric Vehicles (BEVs) have become commonplace in the market. The front grille area of Internal Combustion Engine (ICE) vehicles required openings for airflow that provided engine cooling. Because BEVs typically do not require airflow through a front grille for engine cooling, some vehicle manufacturers have begun to occupy that space with lighting elements (e.g., illuminated front grilles and/or illuminated front logos). The previous SAE J3098 was written assuming there would be a front decorative lamp or lamps on each side of the vehicle centerline. This did not account for the scenario of illuminated front grilles that span the entire width between headlamp assemblies or for the scenario where a single front decorative lamp spans the entire width of a vehicle. Revisions to SAE J3098 have been made to address scenarios that may be unique to vehicles with illuminated front grilles and/or illuminated front logos.

Discussion occurred whether the photometric measurement distance of at least 3 m from the light source of the lamp and the photometer remained adequate for wide front decorative lamps such as illuminated grilles on some newer BEVs. Members acknowledged that it is necessary for the photometer to be able to capture the entire illuminated portion of the lamp being measured. Result of the discussion was to add "or at least ten times the maximum light emitting dimension of the lamp, whichever is greater" to 5.1.5.1.

A scenario appearing on some newer BEVs is to have horizontal front decorative lamps across the entire front of a vehicle with a segment inside the right headlamp, a segment inside the left headlamp, and a segment across the illuminated front grille. The distance between lighted edges of these three horizontal segments is often less than 40 mm. The front decorative lamp segment inside each headlamp assembly can also be optically combined with a front turn signal lamp. It would also be possible to have spacing from the optical center of the front turn signal to the lighted edge of a low beam headlamp or daytime running lamp to be greater than 100 mm in this scenario, which would allow use of a base (one times) photometric intensity front turn signal.

SAE J3098 as originally published would require the front decorative lamp that is optically combined with the front turn signal in the scenario above along with the outboard portion of the illuminated grille, and potentially the illuminated grille from centerline of the vehicle outward, to be extinguished on the relevant side of the vehicle during turn signal operation. An exception was provided if the front turn signal had 2.5 times the base photometric intensity. However, in the above scenario, a one times turn signal could have been used if not for the lighted edge of the front illuminated grille being less than 40 mm to the lighted edge of the front turn signal.

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This recommended practice requires the maximum photometric intensity of all the front decorative lamps on each half of the vehicle centerline not to exceed 300 cd when the front position lamps and/or headlamps are not activated. For reference, a one lighted section base (one times) front turn signal is required to have a minimum photometric intensity of 200 cd at H-V. To prevent “masking” of the front turn signal in daytime conditions (when the vehicle's front position lamps and/or headlamps are not activated), it would be expected to extinguish the front decorative lamp when optically combined with a front turn signal on the relevant side of the vehicle during the turn signal operation. However, with the above photometric intensities in mind, it is not believed the potential masking concern exists when the outboard lighted edge of an illuminated front grille is within 40 mm of the inboard lighted edge of a base (one times) front turn signal mounted inside a headlamp assembly due to the typical horizontal relationship of these functions on the front of the vehicle. A suggestion was made to remove the “or within 40 mm of a lighted edge of a front turn signal lamp” restriction from 6.4.3.

A contrary opinion stated measuring the distance between the lit edge of one lamp to the optical center of another lamp does not address potential visibility challenges and 6.4.3 should no longer include reference to the distance between lit edge and optical center. However, measurements between the lighted edge of low beam headlamps and/or daytime running lamps to the optical center of front turn signal lamps are specified in other SAE J-documents and Federal Motor Vehicle Safety Standard 108.

Another opinion stated the masking of a base photometry (one times) front turn signal by a front decorative lamp only exists when both functions are located in the same lamp assembly. It was suggested the spacing requirements apply only if the front decorative lamp and front turn signal were combined in the same lamp assembly. However, it was discussed that masking of a front turn signal could be a concern in a scenario where the lighted edge of a separate front decorative lamp was to be located within 40 mm of the entire extent of the lighted edge of a front turn signal.

The consensus was to continue to specify the measurement distance between the lighted edge of a front decorative lamp to the optical center of the front turn signal. The 40 mm restriction of the lighted edge of a front decorative lamp to the lighted edge of a front turn signal would only apply when combined in a common lamp. This eliminates the need for outboard portion of the illuminated grille, and potentially the illuminated grille from centerline of the vehicle outward, to be extinguished on the relevant side of the vehicle during turn signal operation that visually may not have been understood by the vehicle user or other road users as to why this was happening.

Vehicles with a front decorative lamp representing a manufacturer's brand name or logo have begun to appear in the market. This type of front decorative lamp is not always symmetrical to itself or symmetrically located about the vehicle centerline. The mounting location requirements have been updated to account for a front decorative lamp representing a manufacturer's brand name or logo that may not be symmetrical to itself or symmetrically located on the front of a vehicle.

While discussing an illuminated grille designed as a front decorative lamp, it was agreed that because a front decorative lamp(s) is not a required device(s) that means may be provided for the vehicle operator to switch ON or OFF the front decorative lamp(s).

During various reviews of this document, consensus was reached to make minor updates to the terminology used in the definition for the front decorative lamp(s) and to the sections describing maximum photometric intensities.

Specific revisions include:

2.1.1 - Added SAE J387 and updated the title of SAE J578.

Added 2.2.2 and 2.2.3 with information to related to FMVSS 108 and CMVSS 108.

3.1 - Phrase “Additional lighting device(s)...” was “Auxiliary lighting device(s)...” and phrase “...for aesthetic and/or brand identification...” was “...for aesthetic or brand identification...”

5.1.5.1 - Added “or at least ten times the maximum light emitting dimension of the lamp, whichever is greater.”

6.1.5.1 - Phrase “When front position lamps and/or headlamps are switched OFF...” was “When front position lamps or headlamps are not active...”