CHAPTER 7425
DEPARTMENT OF PUBLIC SAFETY
STATE PATROL DIVISION
MOTOR VEHICLE LIGHTING DEVICES

7425.0100 DEFINITIONS.

Subpart 1. **Scope.** The words and phrases in subparts 2 to 34, when used in this chapter, shall have the meanings respectively ascribed to them for the purposes of this chapter, except in those instances where the context clearly indicates a different meaning. Wherever used in this chapter, the abbreviations contained in this part shall stand for and have the meanings respectively ascribed to them in this part.

Subp. 2. **After-market.** The term "after-market" shall mean any equipment or device manufactured for a vehicle as an accessory for installation after delivery. The term "after-market" shall not be construed to mean any new equipment or device regularly installed on or furnished for any vehicles by the vehicle manufacturer or replacements of such original equipment supplied by the vehicle manufacturer.

Subp. 3. **ASA.** "ASA" means American Standards Association.

Subp. 4. **Auxiliary lamps.** "Auxiliary lamps" are devices on a motor vehicle used to supplement the headlamps in providing general illumination ahead of the vehicle. They include those lamps sold commercially as driving lamps, passing lamps, road lamps, adverse weather lamps, or fog lamps. (Limitation on use of auxiliary lamps, Minnesota Statutes, section 169.56.)

A. An "auxiliary driving lamp" is a unit used to supplement the upper or country beam from the headlamps.

B. The "auxiliary passing lamp" is a unit used to supplement the lower or traffic beam from the headlamps.

C. "Adverse weather lamps" are lamps that may be used in lieu of or to supplement the headlamps to provide illumination under conditions of rain, snow, dust, or fog.

D. A "fog lamp" is an adverse weather lamp.

Subp. 5. **Back-up lamp.** A "back-up lamp" is a lamp used to furnish general illumination to the rear of a vehicle when it is in rearward motion. (Limitation on use of back-up lamps, Minnesota Statutes, sections 169.59 and 169.64.)

Subp. 6. **Bicycle lamps.** A "bicycle headlamp" is an electric lamp used to provide general illumination ahead of the bicycle and also to serve as a warning light to approaching motorists. A "bicycle tail lamp" is an electric lamp used to mark the rear of a bicycle. (Necessity for and requirements concerning bicycle lamps, Minnesota Statutes 1957, section 169.221.)

Subp. 7. **Bulb.** A "bulb" is an incandescent lamp used as a source of light.

Subp. 8. **Clearance lamps.** "Clearance lamps" are lamps used on the left and right side of the front and rear of a vehicle which show to the front and rear, respectively, to mark the width of the vehicle.

Subp. 9. **Combination clearance and marker lamp.** A "combination clearance and marker lamp" is a single lamp which fulfills the requirements of both a clearance lamp and a side marker lamp. (Statutory requirements for use and mounting of clearance and marker lamps, Minnesota Statutes, section 169.51.)

Subp. 10. **CP.** "CP" means candle power.

Subp. 11. **Flares.** A "flare" (electric, fuel burning, reflector) is a device used in sets of three, capable of displaying a warning light or reflecting a warning to the driver of an approaching vehicle that beyond the first light or reflector there is a hazard and that he must proceed with caution.

A. An "electric flare" or "electric warning lantern" is a device capable of displaying an electric light, either flashing or steady burning.

B. A "liquid burning flare" is a device, usually consisting of a vessel with a wick, capable of displaying a warning light.

C. A "reflector flare" is a device consisting of at least two reflector surfaces on each side of the reflector and, by means of reflected light from the approaching vehicle, serves as a warning device. (Necessity for and use of flares, Minnesota Statutes, section 169.75.)

Subp. 12. **Front combination lamp.** A "front combination lamp" is a lamp so constructed and mounted that it serves two or more of the following functions: front parking lamp; front turn signal lamp; or fog lamp.

Subp. 13. **Headlamp.** A "headlamp" is a major lighting device used to provide illumination ahead of the vehicle. (Requirements for headlamps, Minnesota Statutes, sections 169.49, 169.60, and 169.61.)

Subp. 14. **Headlamp beam semi-automatic switching device.** A "headlamp beam semi-automatic switching device" means any device which will permit the lights from an approaching vehicle to automatically switch the lights on the vehicle equipped with the device from high beam to low beam and that may permit the beam to return automatically to high beam after the vehicle or vehicles have passed.

Subp. 15. **ICC.** "ICC" means Interstate Commerce Commission.

Subp. 16. **Identification lamps.** "Identification lamps" are groups of three lights in a horizontal row, spaced not less than six nor more than 12 inches apart, measured from center to center of lens, mounted near the top of the center of the front and rear of the permanent structure of the vehicle, which show to the front and rear, respectively, to identify a certain type of vehicle. (Use and required mounting of identification lamps, Minnesota Statutes, section 169.58.)

Subp. 17. **License plate lamp.** A "license plate lamp" is a lamp used to illuminate the license plate on the rear of a vehicle. It may be combined with either or both the stop lamp or tail lamp. (Provisions concerning rear lamps, Minnesota Statutes, section 169.50.)

Subp. 18. **Lighting device.** A "lighting device" is any device mounted on a vehicle to furnish illumination or to mark or identify a vehicle or to serve as a signal or warning either by self-illumination or by reflected light. Interior lighting devices, such as dome, dash, and map lights intended only for interior illumination placed inside the vehicle, which are not intended to serve as a signal or to be seen by persons outside the vehicle, are not considered lighting devices within the scope of this subpart. (Lighting devices, Minnesota Statutes, section 169.65.)

Subp. 19. **Marker lamps.** "Marker lamps" are lamps used on the left and right side, near the front and rear of a vehicle, which show to the side to mark the sides of a vehicle.

Subp. 20. **Optical unit.** A sealed beam "optical unit" is an integral and indivisible optical assembly consisting of a lens, reflector, and light source.

Subp. 21. **Original equipment.** "Original equipment" means any equipment or device which the vehicle manufacturer regularly installs or builds into a vehicle, or replacements of any such original equipment supplied by the vehicle manufacturer. "Original equipment" shall also be construed to mean any optional equipment or device supplied by the manufacturer of the vehicle, for which provision has been made in the original design of the vehicle.

Subp. 22. **Parking lamp.** A "parking lamp" is a low candle power lamp used to mark a parked car. It may be incorporated with some other lamp or may be separate. (Provision concerning parking lamps, Minnesota Statutes, section 169.53.)

Subp. 23. **Rear combination lamps.** A "rear combination lamp" is a lamp so constructed and mounted that it serves two or more of the following functions: back-up lamp; license plate lamp; reflector; stop lamp; or tail lamp or turn signal.

Subp. 24. **Reflex reflectors.** "Reflex reflectors" are devices used on a vehicle to give warning of the presence of the vehicle to an approaching driver by reflected light from the lamps of the approaching vehicle. (Use of reflector, Minnesota Statutes, section 169.50.)

Subp. 25. **SAE.** "SAE" means Society of Automotive Engineers, Inc.

Subp. 26. **Safety glazing material.** "Safety glazing material" means glazing material so constructed, treated, or combined with other materials as to reduce, in comparison with ordinary sheet glass or plate glass, the likelihood of injury to persons by objects from exterior sources or by the glazing materials when cracked or broken. (Use of safety glass, Minnesota Statutes, section 169.74.)

Subp. 27. **School bus stop warning lamp.** The "school bus stop warning lamp" is a lamp producing a flashing red light and used in connection with the school bus stop arm to warn aproaching drivers that the bus is being loaded or unloaded. (Use of school bus stop warning lamps, Minnesota Statutes, section 169.44.)

Subp. 28. **Spot lamp.** A "spot lamp" is a light-projecting device located outside the motor vehicle with means for aiming it in any desired direction. Such lamps are not intended as substitutes for head or auxiliary lamps, but for use in emergencies and under conditions where a concentrated, controllable light beam is advantageous. (Limitation on use of and mounting of spot lamps, Minnesota Statutes, section 169.56.)

Subp. 29. **Stop signal lamps.** "Stop signal lamps" are lamps giving a steady warning light to the rear of a vehicle to indicate the intention of the operator of a vehicle to diminish speed or stop. The stop lamp may be combined with some other lamp on the rear of the vehicle. (Use of and requirements concerning stop signal lamps, Minnesota Statutes, section 169.57.)

Subp. 30. **Tail lamp.** A "tail lamp" is a lamp used to mark the rear of a vehicle. It may be combined with another lamp on the rear of the vehicle. (Mounting requirements, Minnesota Statutes, section 169.50.

Subp. 31. **Turn signal lamp.** A "turn signal lamp" is a lamp used to indicate the direction in which a turn is to be made. (Requirements and use of turn signals, Minnesota Statutes, section 169.57.)

Subp. 32. **Turn signal operating unit.** A "turn signal operating unit" is that part of a turn signal system by which the operator of a vehicle causes the signal lamps to function.

Subp. 33. **Turn signal system.** A "turn signal system" consists of a turn signal operating unit, a flasher unit, and two or more turn signal lamps.

Subp. 34. **Warning signal switch.** A "warning signal switch" is a device used by the operator of a vehicle to cause certain lamps to flash simultaneously as a warning of the presence of a vehicular traffic hazard requiring the exercise of unusual care in approaching, overtaking, or passing. (Limitation on use of

such warning signals, Laws of Minnesota 1959, chapter 521.)

Statutory Authority: *MS s 169.65*

7425.0200 SUBMITTAL PROCEDURE.

Subpart 1. **Approving equipment.** The procedure specified in subparts 2 to 6 shall be followed when any equipment or device is submitted for approval.

Subp. 2. **Original equipment.** The vehicle manufacturer, or his supplier, shall submit to the commissioner of public safety a written request for approval of the lamp or device. With the request the following shall be supplied:

A. Identification of the make and model, or models, of vehicle for which the lamp or device is designed.

B. A test report from a recognized testing laboratory approved by the commissioner, showing compliance with the appropriate rules as specified in this chapter. In cases where there may be delays in obtaining completed test reports from approved laboratories, the manufacturer may submit with his request for approval a test report from his own laboratory indicating compliance with appropriate rules. In such cases, a certificate of approval will be issued subject to cancellation without further hearing if the applicant fails to supply the required test report from an approved laboratory within 90 days after issuance of the certificate.

C. All test reports submitted must include a description of the lamp or device, giving all major component parts and the materials used, over-all shape and dimensions, types of assembly, means of mounting, dimensions, shape, and color of lenses, and clear photographs of the lamp or device and its component parts. Picture and description must be such that lamp or device may be readily identified and its construction verified upon comparison.

D. A check payable to the commissioner of public safety covering the fee for state certification (see schedule of required fees, part 7425.0300).

Subp. 3. **After-market equipment.** The manufacturer or his representative shall submit to the commissioner of public safety a written request for approval of the lamp or device. The following items shall be supplied with the request for approval:

A. two standard production samples of the lamp or device;

B. a test report, from a recognized testing laboratory approved by the commissioner, showing compliance with the appropriate rules specified in this chapter;

C. a set of installation or mounting instructions when applicable;

D. a set of aiming instructions when applicable; and

E. a check payable to the commissioner of public safety covering the fee for state certification (see schedule of required fees, part 7425.0300).

Subp. 4. **Safety glass.** Procedures related to safety glass are:

A. Requests for approval of safety glass shall be submitted in accordance with the requirements set forth above for original equipment items, except that it will not be necessary to supply information as to make and model of vehicle on which the glass is to be installed.

B. The request shall be accompanied by eight copies or facsimiles of the manufacturer's identification marking as it appears on the finished product. Such facsimiles shall include any index marking specified by ASA. Size of facsimile should be approximately the size of the marking on the finished product.

Subp. 5. **Sealed lighting units; sealed beam optical units.** Requests for approval of sealed lighting units shall be submitted in accordance with the requirements set forth above for after-market equipment.

Subp. 6. **Listing of approved motor vehicle equipment.** Items of equipment will be dropped from the List of Approved Motor Vehicle Equipment five years from January 1 following date of approval, unless the manufacturer requests further listing, in which case he shall submit a test report or other proof that the item as then being manufactured meets the then current specifications.

Statutory Authority: *MS s 169.65*

7425.0300 FEE SCHEDULE.

Subpart 1. **List.** The fees herein listed are set and fixed as being a reasonable fee for the testing and approval of lighting devices and equipment.

Single Function Lamps Replacement Lenses Optical Units Safety Glazing Materials Warning Signal Switches	$25.00 Ea.
Multiple Function (Combination) Lamps	35.00 Ea.
Headlamp Beam Semi-Automatic Switching Devices (Automatic Dimmers)	35.00 Ea.
Turn Signal Operating Units	35.00 Ea.
Flares - Electric, Fuel-Burning and Reflector	35.00 Ea.
Trailer Couplings and Hitches	35.00 Ea.

Subp. 2. **Checks.** Checks shall be made payable to the commissioner of public safety.

Statutory Authority: *MS s 169.65*

7425.0400 SPECIFICATIONS FOR LAMPS AND DEVICES.

Subpart 1. **SAE compliance.** All lamps and lighting devices, and parts thereof shall comply with the SAE Standards and SAE Recommended Practices appearing in the then current edition of the SAE Handbook, published by the Society of Automotive Engineers, Inc., 29 West 39th Street, New York, New York 10018, which are applicable to the lamp or device being submitted for approval, provided such standards are consistent with Minnesota statutory requirements.

Subp. 2. **Model designation.** Each individual device or equipment shall have a model designation. Devices or equipment that are substantially different in optical or mechanical construction, even though such devices or equipment may serve the same functions, shall bear distinctive model designations.

Subp. 3. **Identification.** The device or equipment shall be marked with the trademark or name and the model designation, in letters and numerals at least one-eighth inch in height. The manufacturer's initials will be acceptable as the name and trademarks that include letters shall have at least one letter one-eighth inch or more in height. The approval markings shall be readily visible and legible from the outside of the device or equipment when it is properly mounted on the vehicle; except that required markings on built-in headlamp and auxiliary lamp subbodies using sealed beam units, and on built-in turn signal operating units, may be on the inside. Markings other than those that are required may be of any size or in any location. The required markings shall be permanently die stamped or molded in both the body and lens, except that the body markings may be stamped in indelible ink or painted in a location protected from abrasion and weathering if it is not feasible to die stamp or mold them on the body. In

such cases the lens markings shall still be molded in the lens and shall be visible from the outside. Safety glass shall be marked according to current ASA specifications.

No raised or indented marking or identification shall be so placed as to interfere with the proper seating of surfaces where a tight seal is desirable.

Subp. 4. **Construction.** Construction specifications are:

A. Lamps shall be so constructed that bulb or lens replacements and aiming adjustments may conveniently be made by one person with ordinary hand tools.

B. The lamp or device shall be so constructed that there will be no unreasonable personal hazard to the mechanic servicing the unit.

C. Lamp mountings shall be so arranged that the aim of the lamp will not be disturbed under ordinary conditions of service. The range of aiming adjustment for any lamp requiring aim shall be that set forth under Sealed Beam Headlamp Testing Specifications in the current SAE Handbook.

D. Lamps shall be so constructed that an optical unit or bulb can be replaced without disturbing the aim of the lamps.

E. Rims or trim rings and lens retaining rings: the means of fastening split or solid rims shall be readily accessible. Where snap or lock rings are used, a section or end shall be bent or kicked up or other means be provided for easy removal.

F. Gaskets shall be constructed of a durable material which will retain its shape and resiliency. Gasket shoulders and lands shall be properly designed to obtain an adequately sealed housing.

G. The electrical wiring shall be securely connected and shall be protected from abrasion by sharp edges.

H. Signal lamps shall be so designed that no chromed or polished surfaces of the lamp will be located where sunlight will be reflected so as to distract from the visibility of the signal lamp to the operator of any approaching vehicle.

Subp. 5. **Specifications for individual devices.** In addition to complying with SAE Standards and SAE Recommended Practices, Minnesota Statutes, and the Minnesota specifications as to identification and construction set forth in subparts 3 and 4, the following requirements for individual devices must be met:

A. Back-up lamps: the color of the lens may be white, amber, or red.

B. Bicycle lamps: maximum intensity above horizontal shall be 250 CP. The lamp housings shall be constructed so that bulb and battery replacements can readily be made. The headlamp shall project a distinct beam of light of uniform pattern.

C. Flares, electric: the electric flare when placed on the highway shall not tip or slide in a 40-mile wind. Three sample flares as regularly marketed and sold shall be placed in a freezing compartment and chilled at a temperature of minus 20 degrees Fahrenheit for a period of 12 hours after which they shall be placed in operation for a 12-hour period. Failure of two of the three samples to operate or to meet the intensity requirements of SAE standard for electric emergency lanterns during the test shall be an automatic rejection.

D. Flares, reflector: the reflector flare shall be designed for two-direction visibility. A minimum of two reflecting surfaces shall be provided on each side of the unit. The minimum effective diameter of each reflecting surface shall be 2-3/4 inches. The standard or case which supports the unit when placed on the highway shall be of such construction that the reflector flare will not be turned, tipped, or slide in a 40-mile wind. The reflecting surface, when the unit is placed on the road surface, shall be at a sufficient height so that the reflector will be visible for a minimum distance of 1,000 feet on level ground. Aggregate CP in axis shall be 12 CP minimum. The CP at all other test points

shall be not less than twice that of the current SAE specifications for Class A red reflectors.

E. Front combination lamps: the requirements for each individual function must be met independently of any other function.

F. Rear combination lamps: the requirements for each individual function must be met independently of any other function.

G. Reflex reflectors: reflex reflectors mounted on the front or on the sides near the front of a vehicle shall reflect a white or amber color. Reflectors mounted on the rear or on the sides near the rear of a vehicle shall reflect a red color. Reflectors will be classified into two groups: Class A shall include only those reflectors meeting the Class A visual test requirements of the SAE standard for reflex reflectors. Class B shall include those reflectors meeting the Class B visual test of the SAE standard. Where maximum statutory requirements for visibility are specified, only reflectors meeting the SAE standards for Class A reflectors will be approved. Reflex reflectors for use on bicycles shall meet the Class B photometric requirements.

H. Replacement lenses: lenses designed to be marketed as alternate replacements shall be tested with the lamp for which they are designed and shall meet the applicable specifications.

I. Safety glazing material: safety glazing material shall comply with the specifications of ASA current at the time of application.

J. School bus stop warning lamps: for requirements for school bus stop warning lamps, see specifications available from the state commissioner of education.

K. Spot lamps: spot lamps shall be mechanically and electrically controlled from the inside of the vehicle, except those designed for use as utility lights and mounted on public utilities and service vehicles.

L. Turn signal system: turn signal units shall meet the Class A, Type I, or Class B requirements of the SAE standard for turn signal units, shall be used as specified for the appropriate class, and shall be installed as recommended in the standard. Turn signal operating units shall be used as specified in the SAE standard for turn signal operating units in accordance with the class for which it is approved.

M. Trailer hitches: passenger car trailer hitches shall comply with the current SAE recommended practice or standard. Tow-bars and saddle mounts (drive-away operations), and fifth wheel connections shall comply with specifications set forth in the ICC Motor Carrier Safety Regulations.

N. Warning signal switch: the warning signal switch may be incorporated as a part of a turn signal operating unit or may be a separate switch. Any switching device used for this purpose shall have incorporated as a part of the switch or as an accessory thereto, a visible or audible, or both, means of giving a clear and unmistakable indication to the driver that the signal system is turned on. The visual indicator shall consist of one or two bright green or red lights, with a minimum area of each equivalent to a 3/16 inch diameter circle, and plainly visible to the driver.

Statutory Authority: *MS s 169.65*