

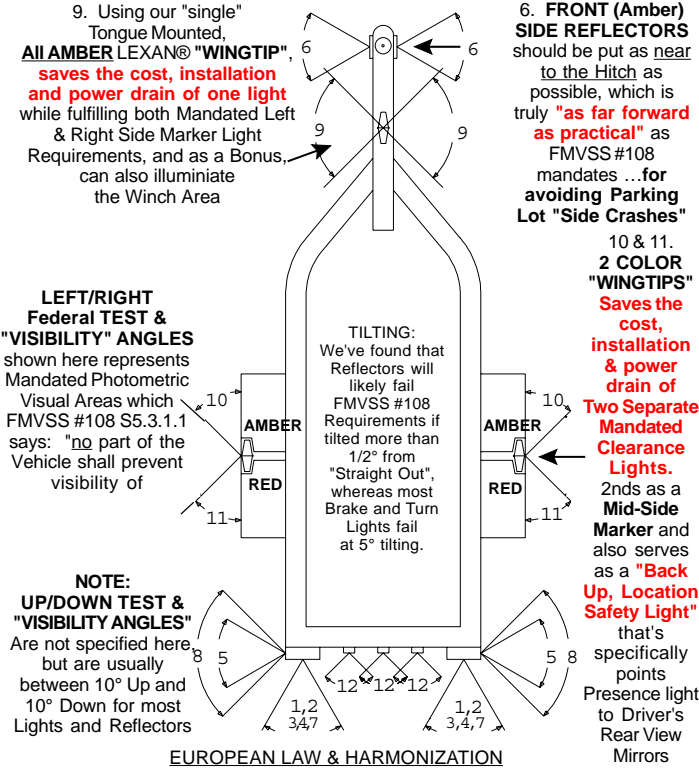


# "LEGAL SUMMARY" for TRAILER, RV & TRUCK Front, Rear & Side Presence & Signal Lighting

The Charted Data and Sketch below pretty much summarizes **Federal Motor Vehicle Safety Standard #108 Photometric Specifications** for Location and Visibility of all Side and Rear Lights and Reflectors for all **Vehicles Under and Over 80"** in width. These **NHTSA\* "Mandated" Requirements** cover virtually all "Non" Motor Driven Vehicles (Trailers, etc.) as well as most Motor Driven Vehicles. \*National Highway Traffic Safety Administration

**WARNING: NHTSA Compliance requires all Lights and Reflectors to be mounted in the exact orientation at which they were "Qualified Tested",** which is almost always absolutely Perpendicular or Parallel to the axis of the Vehicle. Any "tilting" or "obstructions to the visibility" of Mandated Lights or Reflectors ... **must be photometrically compensated for and must be proven to meet all FMVSS #108 Specs using augmented "Qualified Laboratory Photometric Data" from the supplying Manufacturer or Distributor,** which should be kept on file for any NHTSA and/or State Legality Investigations. Embarrassing and costly Recalls can result from Non-Compliances to FMVSS #108, not to mention the possibility of being **implicated in Crash related Lawsuits.**

## Most Economical yet "Legal" Layout to Position Lights & Reflectors on any Trailer, etc.



## VEHICLES UNDER and OVER 80" in WIDTH

REQUIRED	POSITION AND SCOPE
1. Tail Lamps, 2 Red	REAR, equally spaced, "as far apart as practical". 15" minimum from ground, 72" maximum height Specified Photometrics, from 20° Left/Right & from 10° Up/Down (Amber Turn is optional in U.S.A.)
2. Stop Lamps, 2 Red	
3. Turn Signal Lamps, 2 Red or 2 Amber	
4. REAR Reflectors, 2 Red	"As far apart as practical".
5. REAR SIDE Reflectors..... 2 Red	"As far back as practical" exactly Parallel to Axis. Tested at .2° & 1.5° Angles, from 10° Up/Down & from 20° Left/Right Output
6. FRONT SIDE Reflectors*..... 2 Amber	Same as REAR SIDE REFLECTOR (#5) but to FRONT.
7. REAR License Lamp (White)....	Illumination of License Plate from Top or Side
8. REAR SIDE MARKER Lamp....	For REAR SIDE (Intersection) Viewing, located 2 Red, 1 on each side "as far back as practical".
9. FRONT SIDE MARKER Lamp..	For FRONT SIDE (Intersection) Viewing, located 2 Amber, 1 on each side "as far forward as practical". Canada varies location - Ask!

\*Note: The FMVSS #108 "As Far Forward as Practical" Requirement for both Side "Forward" Reflectors is primarily a Safety Requirement to keep Drivers from running into "Parked" Vehicles at night. Therefore, it's best to mount the Front Side Pointing Reflectors nearest to the Hitch Point as possible.

## ADD TO VEHICLES OVER 80" in WIDTH

REQUIRED	POSITION AND SCOPE
10. Clearance Lamps .....	Seeable Forward depicting "Overall Width" 2 Amber and "Extreme Width". Specified Photometrics from 0° to 45° Outboard, 10° Up/Down
11. Clearance Lamps .....	Seeable Rearward depicting Overall Width and "Extreme Width". Specified Photometrics from 0° to 45° Outboard
12. I.D. Lamps .....	Spaced 6" to 12" apart for Over 80" Vehicle Conspicuity. Specified Photometric Tested between 45° Left/Right, 10° Up/Down.

\*For Safety Sake, these Lamps should also be somewhat Visible Inboard for following traffic's "Passing" Safety"...a NHTSA oversight!

Notes: 1) Federal Law supersedes all State Laws on the subjects covered. 2) Complete Spectrum of FMVSS #108 Specifies Photometric Requirements - Available on request!

### NOTE to OEMs: A TAIL LAMP IS "NOT" A CLEARANCE LAMP TOO!

A Tail Lamp is **not** also a Clearance Lamp; however, a Clearance Lamp can be built into a Multi Function Lamp, but...it **must use a separate bulb** and be located to represent the "overall" and "extreme width" of the vehicle.

Our 8-Function 3-1/2 X 6 and new 3 X 8 Tail Light Assemblies offer this added Clearance Lamp option using a separate bulb. **However note, you can save the expense of this Extra Bulb by using our New "WingTip" Combo Clearance Lamps!**

"Overall Width" means the same as "Extreme Width"

### FMVSS #108 Quotes for LOCATION & VISABILITY of Clearance & Other Mandated Lights

S5.1.1.9 A Boat Trailer\* whose overall width is 80 inches or more need not be equipped with both front and rear clearance lamps provided an Amber (to front) and Red (to rear) Clearance Lamp is located at or near the midpoint on each side to indicate its extreme width.

\*Common Sense dictates that this allowance applies to any Protruding Fender Type Trailer. We're asking NHTSA for a Legal Clarification on this point! Check our website for details.

S5.3.1.1 Except as provided in S5.3.1.1.1, each lamp and reflective device shall be located so that it meets the visibility requirements specified in any applicable SAE Standard or Recommended Practice. In addition, no part of the vehicle shall prevent a parking lamp, taillamp, stop lamp, turn signal lamp, or backup lamp from meeting its photometric output at any applicable group of test points.

### Our ALL AMBER, FRONT, SIDE MARKER "COMBO" WING TIPS Saves \$

S5.3.1.3 says that on a Trailer, the amber front Side Reflex Reflectors and amber Front Side Marker lamps may be located "as far forward as practical, exclusive of the trailer tongue". This allowance does not preclude mounting a "Two Direction, Optically Combined" Side Marker Light anywhere on the Tongue as long as S5.3.1.1 Visibility is complied to. Our All Amber WingTip® complies to all mandated Test Scans on both sides simultaneously thus satisfying "AS FAR FORWARD AS PRACTICAL" while using only one light instead of two ... saving another light while also providing a possible Bonus! "Winch & Hook Up Night Light"!

### PERPENDICULAR & PARALLEL MOUNTING WARNING

We are unaware of any Lighting or Reflector devices currently sold that are not designed or have been "Qualified Tested" for other than absolute Perpendicular or Parallel mountings relative to the Axes of the Vehicle. Any tilting variations drastically depletes mandated Photometrics and can start a costly and embarrassing Recall. OEMs should make it a point to ask Suppliers for "Specific" Lab Tests that allow any "Tilting" they may require.

### All Dry Launch Lights are Wire Color Coded as follows: (This depicts most written & unwritten "Industry Standards")

YELLOW .....	*Combined or Left Turn	BROWN .....	Tail Lights
GREEN .....	*Combined or Right Turn	BROWN .....	Side Marker Lights
RED .....	Separated Brake Signal	BROWN .....	Clearance Lights
WHITE .....	Ground	BROWN .....	Three I.D. Lights

\*Combined means combined Brake & Turn Signals

**TECHNICAL QUESTIONS? - SAMPLES, ORDERING**  
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