

**COLORADO DEPARTMENT OF TRANSPORTATION
SUBMITTAL OF NEW SPECIFICATION
OR SPECIFICATION CHANGE**

Log No. (Assigned by Standards and Specifications Unit)
713-1-fy24

TO: Standards & Specifications Unit
Project Development Branch

FROM: HQ Traffic Safety & Engineering
(Region, Branch or Technical Committee)

SPECIFICATION SECTION NO.
713

ITEM
10(a) Reflective Materials

Priority
Routine Fast

Reason for this new or changed specification:

Reflective devices quality requirements were outdated. Revised specification with latest testing methods and language for such devices.

See Attached

Revision of Section 713
Retroreflectors

Revise Section 713 of the Standard Specifications as follows:

Revise subsection 713.10 as shown below:

713.10 Quality Requirements of Reflective Materials. Retroreflectors ~~Reflective devices~~ and retroreflective ~~reflective~~ sheeting shall be materials that are on the Department's Approved Products List.

(a) ~~Retroreflectors.~~ ~~Reflective Devices.~~

1. Reflective Quality Requirements.

- A. Delineator and Median Barrier Reflectors. The specific intensity of each delineator and median barrier reflector shall be at least equal to the following minimum values when tested per Federal Test Method 370 as described in ASTM E808~~AASHTO T257~~, with an observation angle of 0.1 degrees.

TABLE 713-3
QUALITY REQUIREMENTS OF
DELINEATOR AND MEDIAN BARRIER REFLECTORS

Entrance Angle Degrees	Specific Intensity Candlepower per Foot-Candle				
	Crystal	Yellow	Blue	Red	Green
0	115	70	48	25	62
20	45	25	26	10	34

- B. Cut-out Figure Reflectors. The specific luminance of crystal reflectors used in cut-out figures shall be at least equal to the following minimum values when tested per Federal Test Method 370 as described in ASTM E808.

Table 713-4
QUALITY REQUIREMENTS OF
CUT-OUT FIGURE REFLECTORS

Observation Angle Degrees	Entrance Angle Degrees	Specific Luminance Brightness : Candlepower per Sq In per Foot-Candle
0.1	0	14.0
0.1	20	5.6

- 2. Material and Component Requirements. Plastic for delineator and cutout figure reflectors shall be poly methyl methacrylate conforming to the minimum requirements of ASTM D788, Unmodified, Class 3, General Purpose. ~~GradThe reflectors shall meet test requirements of CP L-2115, Section 3.2 and 3.3.~~

Commented [1]: Changed Reflective Devices to Retroreflectors to match definition in ASTM E808

Commented [2R1]: E808 - Retroreflective device, n— deprecated term; use retroreflector.

Commented [3]: Added Federal Test Method 370 and ASTM E808 for outdated ASHTOO T257 testing methods

Commented [4]: Took out brightness and replaced with luminance as it is the correct term.

Commented [5]: Luminance is correct term changed here. No other use in our spec

Commented [6]: Revised ASTM D788 to current standards and took out outdated Colorado Procedure L-2115