



U.S. Department
of Transportation
**Federal Highway
Administration**

OCT - 9 2013

1200 New Jersey Ave., SE
Washington, D.C. 20590

In Reply Refer To:
HOTO-1

Mr. Greg Miller
Managing Director, Traffic
Carmanah Technologies Corporation
250 Bay Street
Victoria, British Columbia
CANADA V9A 3K5

Dear Mr. Miller:

Thank you for your letter of September 24 requesting an official interpretation regarding the definition of dimming, particularly as it affects the dimming of Rectangular Rapid Flashing Beacons (RRFBs) during daytime conditions.

The word "dimming" is used four times in the 2009 MUTCD. Paragraph 13 of Section 4D.06 and Paragraph 10 of Section 4E.04 recommend dimming bright vehicular traffic control signal indications and bright pedestrian signal indications, respectively, during nighttime conditions to minimize excessive glare. Paragraph 6 of Section 4L.01 provides an option to dim the flashing yellow signal indications associated with flashing beacons during night operations. Finally, Paragraph 11 of Section 6F.61 requires that arrow boards be dimmed during nighttime operation.

In addition, Interpretation 4(09)-24 (I) dated September 27, 2012 (http://mutcd.fhwa.dot.gov/resources/interpretations/4_09_24.htm) says nighttime dimming can be a reasonable approach if the RRFB signal indications are so bright that they cause excessive glare during nighttime conditions, but that it is not acceptable to dim the RRFB signal indications during daytime conditions. Interpretation 4(09)-24 (I) also says that the light output from the RRFB signal indications must meet the SAE J595 requirements for peak luminous intensity (candelas) for Class 1 at all times during daytime conditions.

The question that your letter is asking is if a variety of intensity levels are used for the RRFB signal indications during daytime conditions, and if all of the various levels (including the lowest of the intensities) meet the SAE J595 requirements for peak luminous intensity (candelas) for Class 1, is this considered dimming?

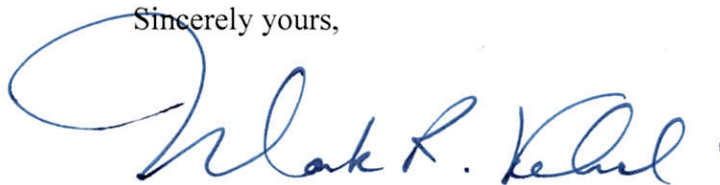
It is the FHWA's official interpretation that dimming occurs only when the light output from a traffic control signal indication or an RRFB signal indication falls below the minimum specified intensity for daytime conditions.

This means that a variety of intensity levels can be used for the RRFB signal indications during daytime conditions as long as all of the various levels (including the lowest of the intensities) meet the SAE J595 requirements for peak luminous intensity (candelas) for Class 1 because this would not be considered to be dimming.

For recordkeeping purposes, we have assigned the following official ruling number and title: "4(09)-37 (I) – Definition of Dimming." Please refer to this number and title in any future correspondence regarding this topic.

Thank you for your interest in improving the clarity of the provisions contained in the MUTCD.

Sincerely yours,

A handwritten signature in blue ink, appearing to read "Mark R. Kehrl", with a large, stylized initial "M" that loops back.

Mark R. Kehrl
Director, Office of Transportation
Operations