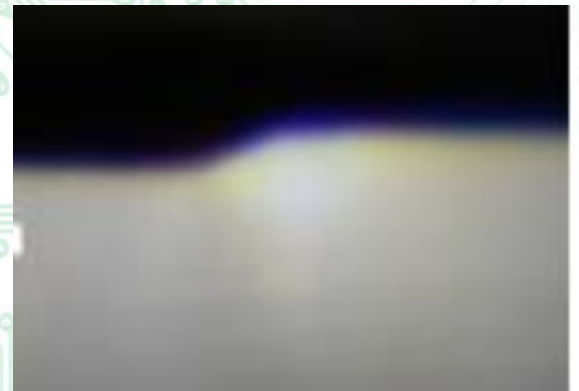


# APPLICATION NOTE

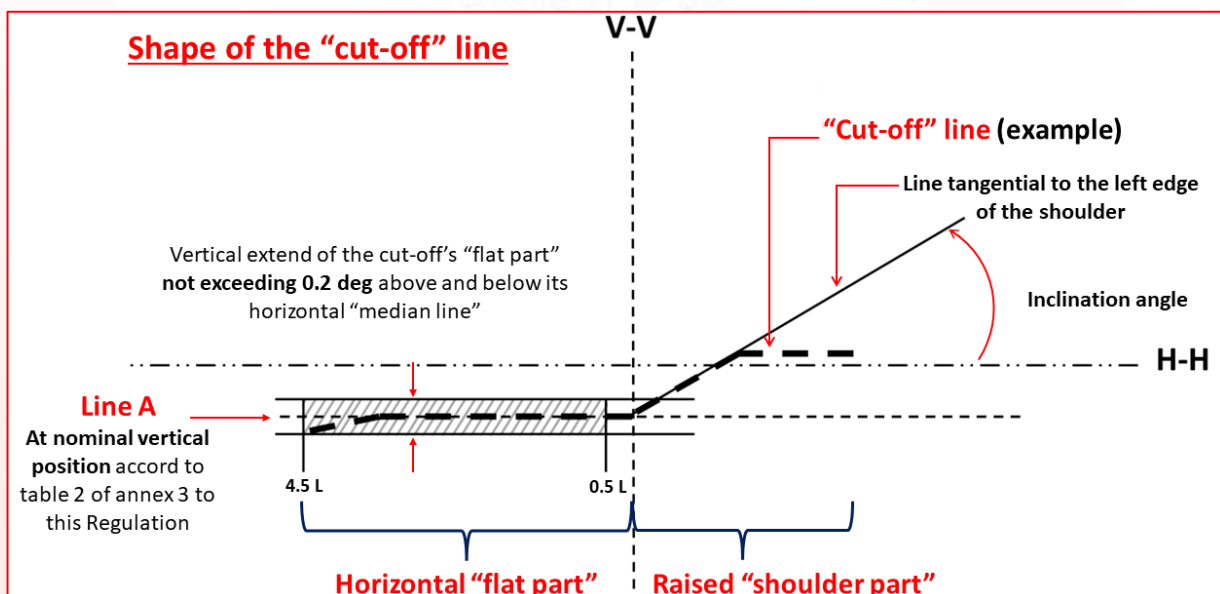
## Cut-off line measurement for automotive headlamps

The cut-off-line (COL) measurement is used to test and correct adjustment the passing beam of the headlamps in the automotive sector. The passing beam is used in the headlamps for good road illumination distance and oncoming drive eyes protection of excessive glare, separating bright and dark areas. The COL is used in laboratories, vehicle factories, in-service and technical periodical inspection.

The goal of the system is the measurement in real time of the maximum "cut-off-line" deviation to allow measure repeatability and avoid subjectivity.



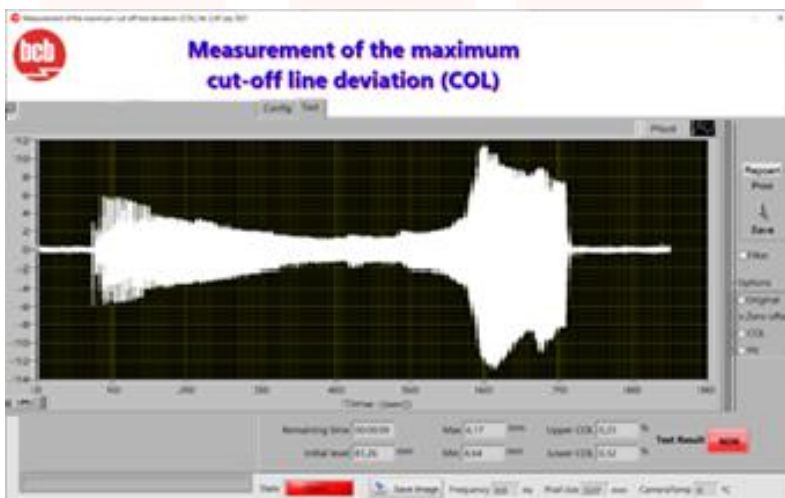
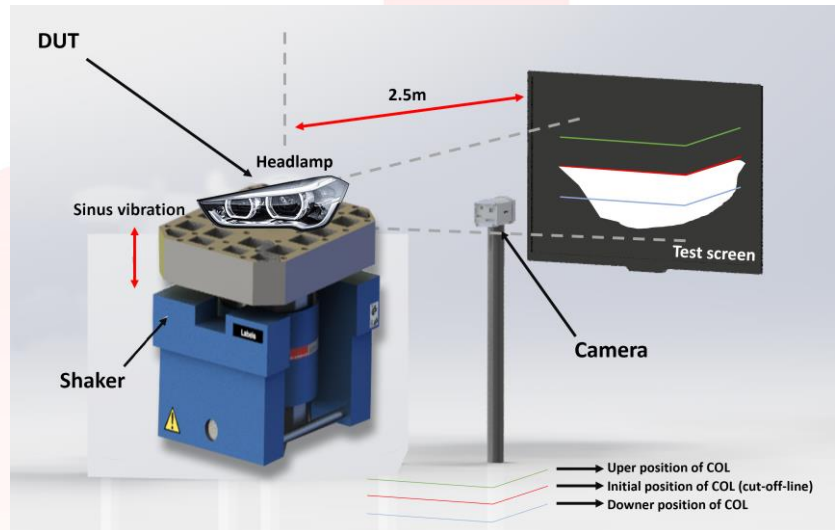
High resolution image acquired during V point for low beam testing



# APPLICATION NOTE

## COL system composition

To measure the cut-off-line is important to use a system with high-resolution cameras and machine vision techniques during vibration test in a shaker, to obtain results in millimeters and in percentage (%). The passing beam must produce a sufficiently sharp cut-off to distinguish between bright and dark areas to have a high-quality measure.



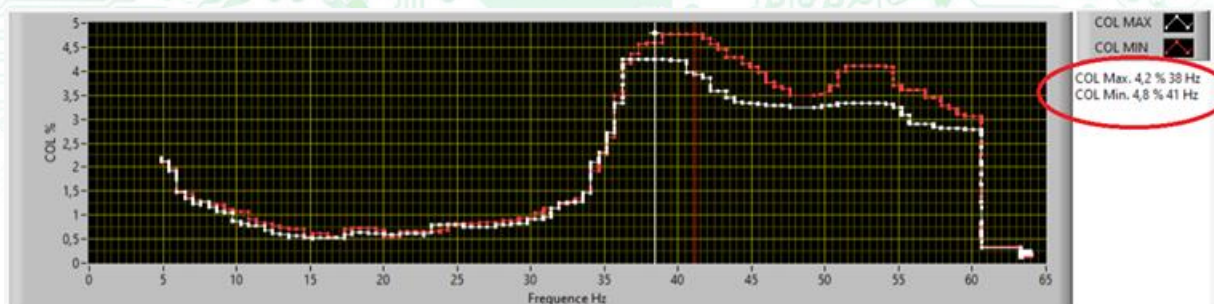
Graph result as a function of the time. Result: NOK (Lower COL > threshold)

## Graphical generation of the results

The maximum displacement is between red and green lines for positive movements, and between red and blue lines for negative movements.

The solution identifies the frequencies, during vibration test, which produce the maximum displacements in positive and in negative (in % and mm). The graphs generated are:

- Time (sec) versus positive & negative displacements (in % or mm).
- Time (sec) versus frequency (Hz).
- Frequency (Hz) vs positive & negative displacements (in % or mm).



## bcb

Fernando el Católico 11  
28015 Madrid  
Tel. (+34) 91 758 0050

[info@bcb.es](mailto:info@bcb.es)  
[www.bcbingenieria.com](http://www.bcbingenieria.com)

## bcb México

Homero 538-303  
Polanco V sección  
Del. Miguel Hidalgo  
11560 Ciudad de México  
Tel. (+52) 55 9183 0547 Ext. 7547  
Sucursal Monterrey Tel. (+52) 81 1041 2616

[info@bcbmex.com](mailto:info@bcbmex.com)  
[www.bcbingenieria.com](http://www.bcbingenieria.com)

