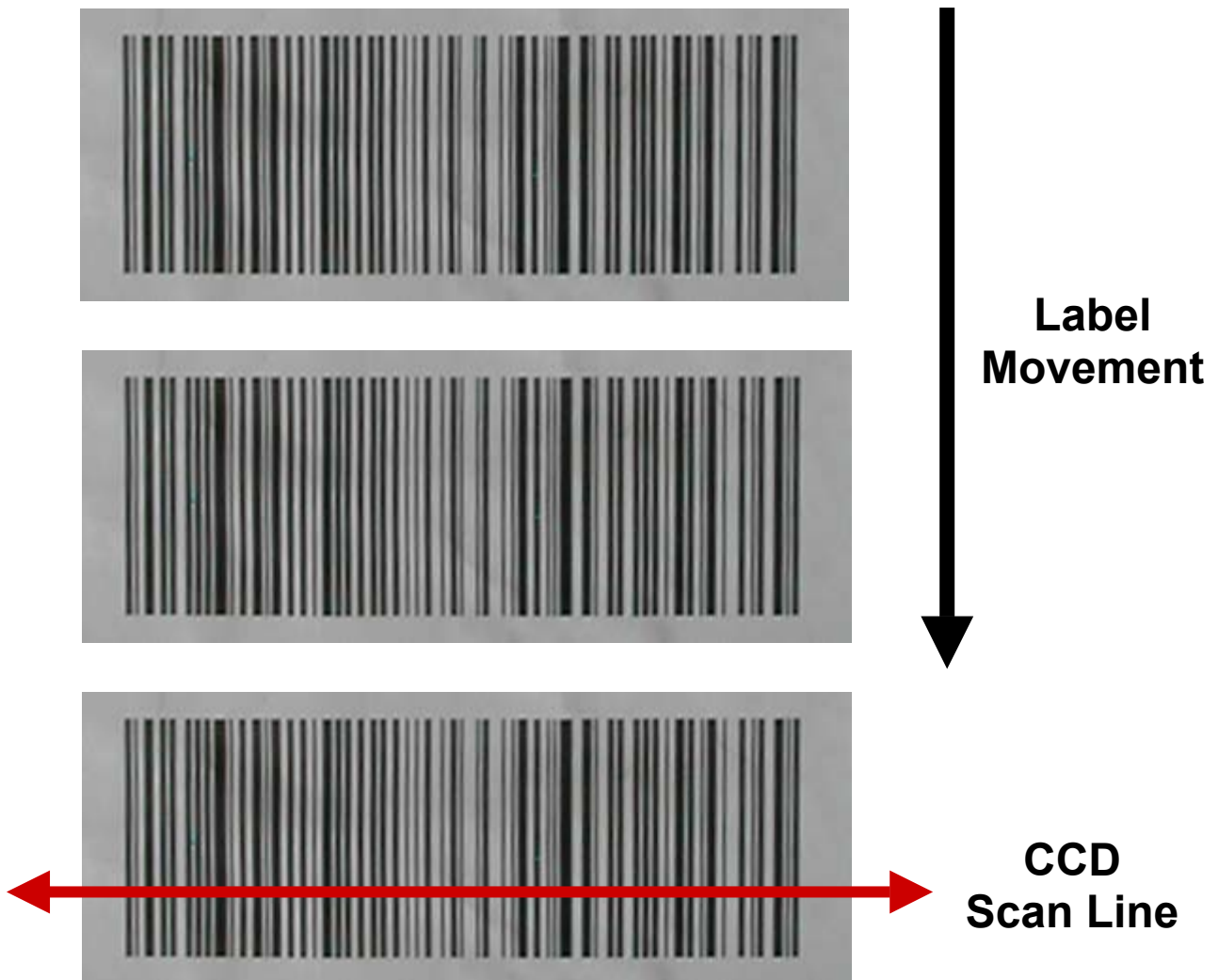


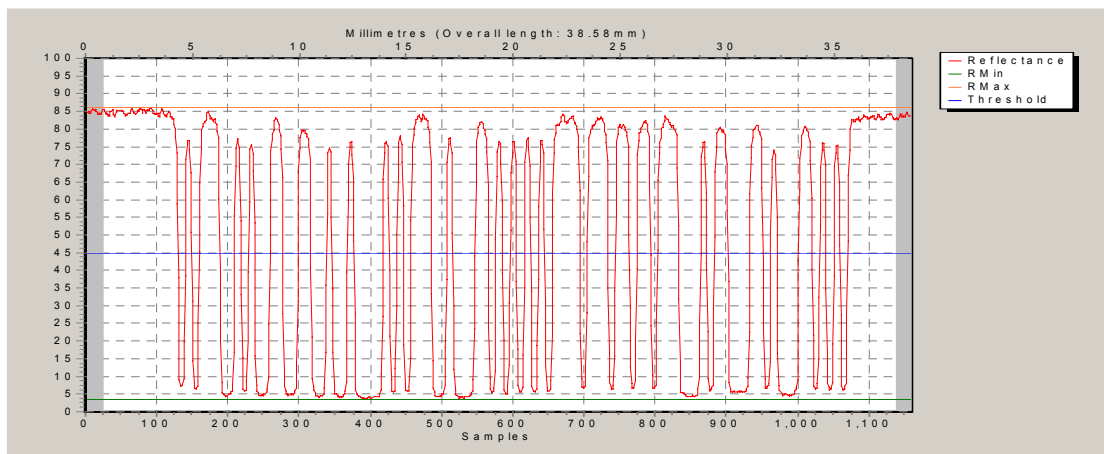
## Mounting Axicon HS Verifiers for Online Verification

The Axicon HS verifiers are designed for use verifying barcodes online but in order to achieve good results from these units it is important to mount the units correctly. Before considering the mechanical arrangement, it is important to realise that these verifiers use linear imaging devices to capture a scan line across a barcode symbol. Therefore the units must be mounted so that they are across the barcode symbol and the symbol must move in a picket fence fashion past the verifier. Motion of the barcode along the line of the scan will not work. It is also important to note that the HS verifiers capture images at 150 scans per second and each scan takes 6 milliseconds to expose. This will limit the print speed (and/or height of symbol) which can be used, but these units were designed for use with thermal transfer printers so typical printer speeds will normally not cause problems unless bar heights are extremely small.

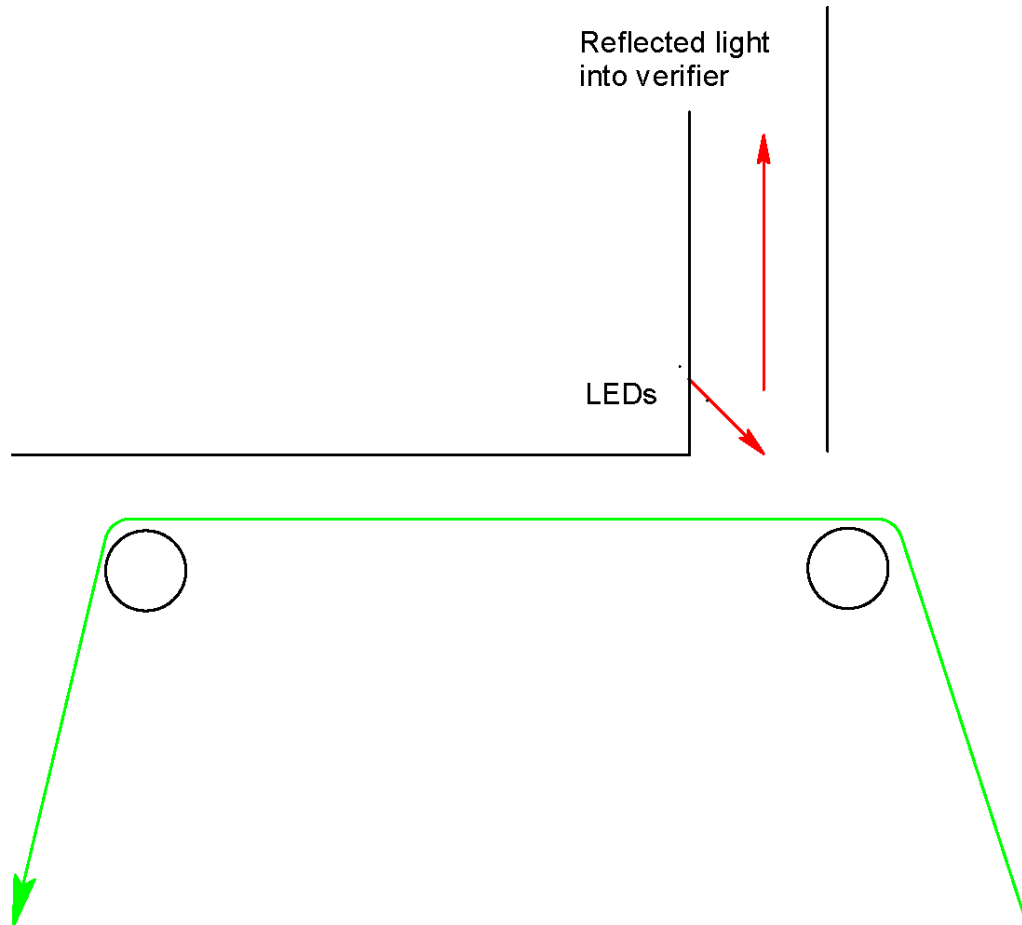


The optical design of the verifiers is such that when placed flat on top of flat labels the incident illumination from the light emitting diodes (LEDs) makes an angle of 45 degrees with the label surface. Light that reflects away from the label surface vertically is then collected and used for the measurement of the print quality of the barcode symbol on the label. The imaging device used is similar to a camera in that an image of the barcode is focussed onto the sensor and as a fixed lens arrangement is used the best focus is achieved at one particular distance. For this reason it is important to mount the verifier in a plane that is parallel to the plane of the label surface and to keep the distance between the label surface and the base of the HS unit to within 12.7 millimetres (or 0.5 inches). This gap between the base of the verifier and label should not vary by more than 2.5 millimetres (or 0.1 inches) when measured from one side to the other of the verifier.

To assist with the positioning of the verifier and to ensure that the verifier is properly calibrated, the standard verifier application should be run before mounting the unit and placed flat on the calibration card. A profile similar to the one shown below should be achieved and it should be noted that the reflectance in the left and right quiet zones should be similar and within 5% or less of each other. When correctly mounted above the label material the quiet zones of a scanned barcode should similarly be within a few percent.

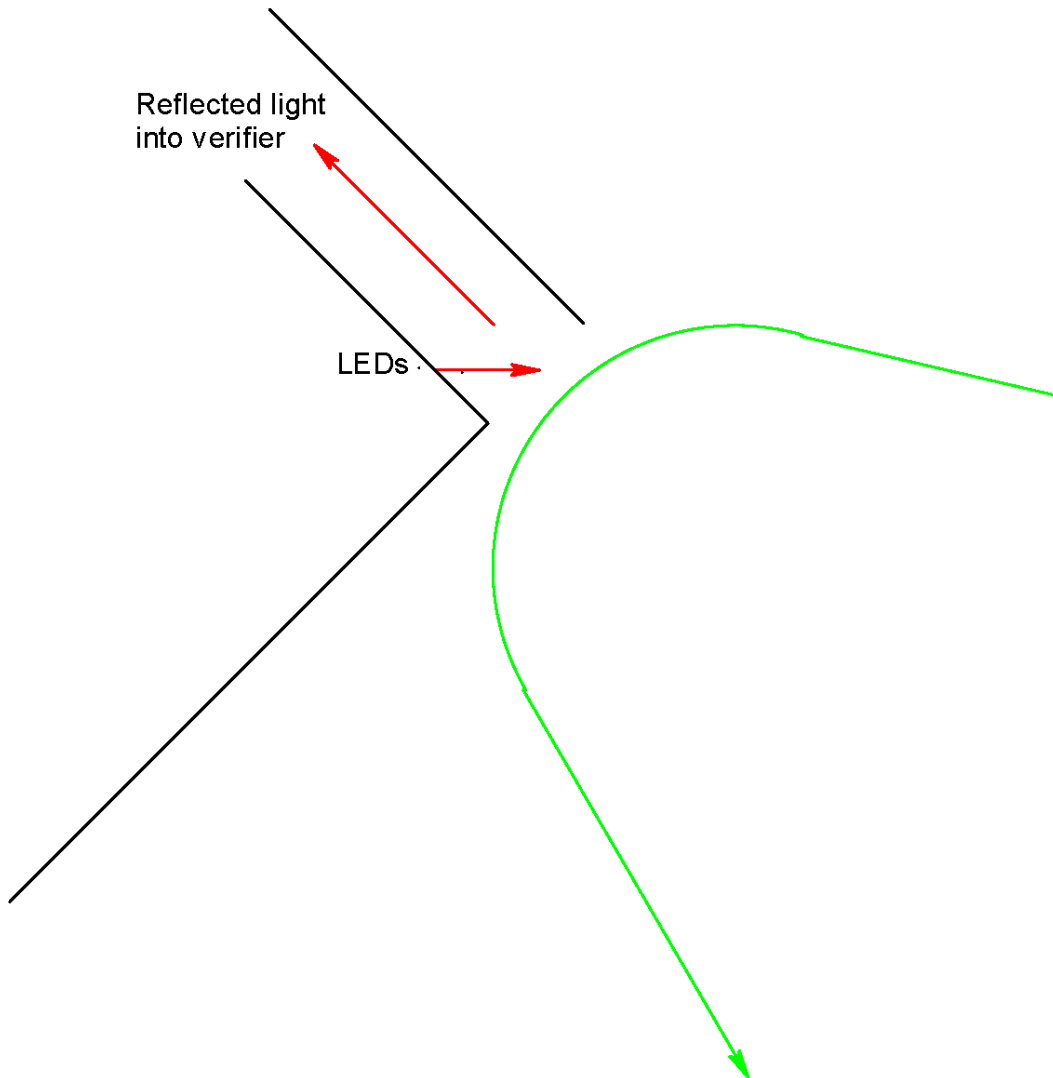


## Flat area of label between rollers



This illustration shows how the verifier might be mounted above an area where the label material (shown in green) is travelling flat between two rollers. To align the head arrange for a label printed with a barcode to be placed beneath the imaging area of the verifier and use the standard verifier to capture a single scan of the barcode on the label. The results obtained should be close to that achieved when placing the verifier directly on top of the label.

## Label passing a round curved surface or roller



The base plate of the verifier should make a tangent to the curve of the label material with the midpoint of the opening of the verifier over the point where the scan is to be made. This arrangement obviously requires much more careful alignment of the verifier mounting but again the use of the standard verifier application can assist if a printed barcode is placed within view and is then decoded and the profile viewed for similar reflectance values across the width of the view.