SpotChecks™ Contrast Sensitivity Test Instructions

(SpotChecks™ is an improved version of CamBlobs™)

Marking the Chart

1) The chart should be placed on a white background (on top of another chart will do) and mounted on a backing that makes it easy to hold it in the hand. Mounting the chart on a regular clipboard is a good solution.

2) The chart should be uniformly illuminated to a level that would be appropriate for easy and comfortable reading (any level of illumination greater than about 200 lux is acceptable). There should be no visible shadows on the chart.

3) If the subject uses reading or other glasses to read, these must be worn when marking the chart.

4) The subject should hold the chart at a comfortable distance in any way that is good for viewing and convenient for marking the chart.

5) The subject should start at the top (or optionally at some lower level at which the spots are still all clearly visible) to mark with a small cross or "X" each of the grey spots that can be seen. A fibre-tip pen is probably the best kind of writing implement to use, but any pen or pencil that reliably produces a clear mark will do.

6) There is a single spot in each of the 5 rectangles on every line and it is important that one grey spot is marked in each rectangle on a line.

7) The subject will probably find that it takes some time (several seconds, maybe as long as 10 seconds) for the fainter spots to appear. Subjects should wait this long, but not longer, to complete marking the spots on the lower lines. Subjects may also find that moving the chart helps to make the fainter spots appear. This is completely acceptable.

8) Subjects should progressively mark the spots down to a level at which they can no longer see the spots even when they have waited for a few seconds. Subjects should then mark one complete line in which they see no spots and have to guess where they are.

Scoring the Marked Chart

9) Use the appropriate translucent scoring template (the letter at the top left of the template should correspond with the letter in that position on the chart) to see which spots have been correctly located and which have not.

10) Reading in the normal way from where the subject started to mark the spots, look for the second incorrectly marked spot. The contrast of this spot can be taken to indicate the subject's contrast threshold. If this spot is the first on a line then the subject's logCS is the value that is printed in the left margin of that line. If the second incorrectly located spot is the second on a line then the subject's logCS is that value + 0.01. Add another 0.01 for each second-error position further along the line.

Notes

The logCS levels of the spots in the first rectangle of each line on the standard SpotChecks™ chart range from 0.90 to 2.05. [logCS = -log(C), where C is the Weber contrast of the spots expressed as a percentage]. The logCS value for each successive spot on any line is greater by 0.01 than that for its left-hand neighbour, making the logCS value for the last (extreme right-hand) spot 0.04 greater than the value in the left-hand margin.

The measurable range of logCS (0.90 to 2.09) should be sufficient for measuring monocularly the contrast sensitivity of normal and mildly visually impaired individuals. However, with binocular vision some individuals may be able to identify the location of all the spots on the chart. In this case their logCS must be recorded simply as "greater than, 2.10".

A version of the chart that covers the logCS range from 0.05 to 1.29 can be provided for measuring the contrast sensitivity of individuals with greater visual impairment.

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