

## Appendix 1 Cut-off criteria for vision chart tests and Plusoptix.

OD: right eye, OS: left eye, p: 'pass', r: 'refer', d: 'doubtful'

### 1a. Amsterdam Picture Chart (APK) at age of 3 years, distance 5 meter<sup>8</sup>

	OD					
	5/30	5/20	5/15	5/10	5/6	5/5
OS						
5/30	r	r	r	r	r	r
5/20	r	r	r	r	r	r
5/15	r	r	r	r	r	r
5/10	r	r	r	d	d	r
5/6	r	r	r	d	p	d
5/5	r	r	r	r	d	p

In words: For children aged 3y, visual acuity was indicated as 'pass' (i.e. no further action taken) if both eyes scored 5/5 (i.e. at least 0.5 at the Snellen chart) or 5/6. If both eyes score 5/10 or if scores between the left and right eye differed one line at scores of 5/10, 5/6 or 5/5, the result was 'doubtful'. All other combinations of scores got the result 'refer', i.e. scores of 5/30, 5/20 or 5/15 for one or both eyes, or 5/5 in one eye but 5/10 in the other eye (i.e. difference of 2 lines).

### 1b. Landolt-C chart, age of 3 years and 6 months to 5.0 years, distance 5 meter<sup>8</sup>

	OD											
	0.1	0.12	0.15	0.2	0.25	0.3	0.4	0.5	0.65	0.8	1.0	
OS												
0.1	r	r	r	r	r	r	r	r	r	r	r	
0.12	r	r	r	r	r	r	r	r	r	r	r	
0.15	r	r	r	r	r	r	r	r	r	r	r	
0.2	r	r	r	r	r	r	r	r	r	r	r	
0.25	r	r	r	r	r	r	r	r	r	r	r	
0.3	r	r	r	r	r	r	r	r	r	r	r	
0.4	r	r	r	r	r	r	r	r	r	r	r	
0.5	r	r	r	r	r	r	r	p	p	d	r	
0.65	r	r	r	r	r	r	r	p	p	p	d	
0.8	r	r	r	r	r	r	r	d	p	p	p	
1.0	r	r	r	r	r	r	r	r	d	p	p	

In words: For children aged 3y6m to 5y0m, the result was 'pass' if both eyes had the same score of 0.5 or higher, or if the best eye scored 0.65 or higher while the other eye scored only one line less. If both eyes scored 0.5 or higher but there is a difference of two lines in the scores, the result was 'doubtful'. All other combinations of scores got the result 'refer', i.e. scores of 0.4 or less for one or both eyes, or 0.5 in one eye but 1.0 in the other eye (i.e. difference of three lines).

1c. Landolt-C chart, from 5.0 years and up, distance 5 meter<sup>8</sup>

		OD										
		0.1	0.12	0.15	0.2	0.25	0.3	0.4	0.5	0.65	0.8	1.0
OS	0.1	r	r	r	r	r	r	r	r	r	r	r
	0.12	r	r	r	r	r	r	r	r	r	r	r
	0.15	r	r	r	r	r	r	r	r	r	r	r
	0.2	r	r	r	r	r	r	r	r	r	r	r
	0.25	r	r	r	r	r	r	r	r	r	r	r
	0.3	r	r	r	r	r	r	r	r	r	r	r
	0.4	r	r	r	r	r	r	r	r	r	r	r
	0.5	r	r	r	r	r	r	r	r	r	r	r
	0.65	r	r	r	r	r	r	r	r	d	d	d
	0.8	r	r	r	r	r	r	r	r	d	p	p
1.0	r	r	r	r	r	r	r	r	d	p	p	

In words: For children over 5y0m, the result was found ‘pass’ if one or both eyes scored 0.8 or higher. If one eye scored 0.65 while the other eye scored 0.65 or higher, the result is ‘doubtful’. All other combinations of scores got the result ‘refer’, i.e. scores of 0.5 or less for one or both eyes.

1d. Plusoptix S12C Mobile Vision Screener<sup>®</sup>

Age in months		$\Delta$ SE $\Delta$ CYL	CYL <sup>&amp;</sup>	MYO	HYP	$\Delta$ pupil size	ASY
From	to	Anisometropia	Astigmatism	Myopia	Hyperopia	Anisocoria	Strabism
31	47	$\geq 1.5$ (> 2.0) D	$\geq 2$ D	$\leq -2.5$ (<-3.0)D	$\geq +4$ D	$\geq 1$ mm (*)	$\geq 10$ (>8) <sup>o</sup>
48	300	$\geq 1.5$ D .	$\geq 1.5$ D	$\leq -1.5$ D .	$\geq +3.5$ D	$\geq 1$ mm (*)	$\geq 10$ (>8) <sup>o</sup>

Between brackets: values of risk factors for amblyopia from USPSTF<sup>3</sup> if different from the values in the table that were used as cut-off values. Predefined manufacturers setting deviate from the settings in Table 1d, and were not used.

\*: no value indicated by USPSTF.

&: in this study negative values for cylinder were used.

SE: sphere, CYL: cylinder, MYO: myopia, HYP: hyperopia, ASY: asymmetry,  $\Delta$ : difference between left and right eye.