

TEST DALTONISMO ISHIHARA - Libro da 38 tavole
ISHIHARA COLOUR TEST - Book of 38 plates
TEST CHROMATIQUE D'ISHIHARA - Livre de 38 planches
TEST DALTONISMO ISHIHARA - Libro de 38 tablas

MANUALE D'USO E MANUTENZIONE
USE AND MAINTENANCE BOOK
INSTRUCTIONS DE FONCTIONNEMENT ET ENTRETIEN
MANUAL DE USO Y MANTENIMIENTO

ATTENZIONE: Gli operatori devono leggere e capire completamente questo manuale prima di utilizzare il prodotto.

ATTENTION: The operators must carefully read and completely understand the present manual before using the product.

AVIS: Les opérateurs doivent lire et bien comprendre ce manuel avant d'utiliser le produit.

ATENCIÓN: Los operadores tienen que leer y entender completamente este manual antes de utilizar el producto.



Introduction

The plates for color blindness testing are designed to provide a test which gives a quick and accurate assessment of color vision deficiency of congenital origin.

Most cases of congenital color vision deficiency are characterized by a red-green deficiency.

There is also a very rare group of persons who suffer from total color blindness and show a complete failure to discriminate any color variations, usually with an associated impairment of central vision with photophobia and nystagmus.

Furthermore, a failure in the appreciation of blue and yellow may be termed tyritanomalia if partial, and tritanopia if complete, but, even if such cases do exist, they are extremely rare. The plates are not designed for the diagnosis of such cases.



Only a trained eye care professional can properly diagnose vision disorders, home use of the charts is not a replacement for professional vision testing.

How to use the test

The plates are designed to be appreciated correctly in a room which is lit adequately by daylight. The introduction of direct sunlight or the use of electric light may produce some discrepancy in the results because of an alteration in the appearance of shades of color. When it is convenient only to use electric light, it should be adjusted as far as possible to resemble the effect of natural daylight.

The plates should be held at a distance of approx 70 cm. from the subject and tilted so that the plane of the paper is at right angles to the line of vision.

The numerals or symbols which are seen on plates are stated, and each answer should be given without more than three seconds delay. It is not necessary in all cases to use the whole series of plates.

Care of plates

The avoid fading of the colors; care must be taken to keep the plates store in case except during use and not to expose the plates to strong light. Tracing curves must be soft in order to prevent scratching.

Explanation of the plates

No. 1. Both the normal and those with all sort of colour vision deficiencies read it as 12.

Nos. 2~5. The normal read them as 8 (No. 2), 6 (No. 3), 29 (No. 4) and 57 (No. 5). Those with red green deficiencies read them as 3 (No. 2), 5 (No. 3), 70 (No. 4) and 35 (No. 5). Those with total colour blindness and weakness are not able to read any numeral.

Nos. 6~9. The normal read them as 5 (No. 6), 3 (No. 7), 15 (No. 8) and 74 (No. 9). Those with red green deficiencies read them as 2 (No. 6), 5 (No. 7), 17 (No. 8) and 21 (No. 9). Those with total colour blindness and weakness are not able to read any numeral.

Nos. 10~13. The normal read them as 2 (No. 10), 6 (No. 11), 97 (No. 12) and 45 (No. 13). The majority of those with colour vision deficiencies are not able to read them or read them incorrectly.

Nos. 14~17. The normal read them as 5 (No. 14), 7 (No. 15), 16 (No. 16) and 73 (No. 17). The majority of those with colour vision deficiencies are not able to read them or read them incorrectly.

Nos. 18~21. The majority of those with red-green deficiencies read them as 5 (No. 18), 2 (No. 19), 45 (No. 20) and 73 (No. 21). The majority of the normal and those with total colour blindness and weakness are not able to read any numeral.

Nos. 22~25. The normal read them as 26 (No. 22), 42 (No. 23), 35 (No. 24) and 96 (No. 25). In protanopia and strong protanomalialia only 6 (No. 22), 2 (No. 23), 5 (No. 24) and 6 (No. 25) are

read, and in case of mild protanomalopia both numerals on each plate are read but the 6 (No. 22), 2 (No. 23), 5 (No. 24) and 6 (No. 25) are clearer than the other numerals. In deuteranopia and strong deuteranomalopia only 2 (No. 22), 4 (No. 23), 3 (No. 24) and 9 (No. 25) are read, and in case of mild deuteranomalopia both numerals on each plate are read but the 2 (No. 22), 4 (No. 23), 3 (No. 24) and 9 (No. 25) are clearer than the other numerals.

Nos. 26 and 27. In tracing the winding lines between the two X's, the normal trace along the purple and red lines. In protanopia and strong protanomalopia only the purple line is traced, and in case of mild protanomalopia both lines are traced but the purple line is easier to follow.

In deuteranopia and strong deuteranomalopia only the red line is traced, and in case of mild deuteranomalopia both lines are traced but the red line is easier to follow.

Nos. 28 and 29. In tracing the winding line between the X's, the majority of those with red-green deficiencies trace along the line, but the majority of the normal and those with total colour blindness and weakness are unable to follow the line.

Nos. 30 and 31. In tracing the winding line between the X's, the normal trace the bluish-green line, but the majority of those with colour vision deficiencies are unable to follow the line or follow a line different from the normal one.

Nos. 32 and 33. In tracing the winding line between the X's, the normal trace the orange line, but the majority of those with colour vision deficiencies are unable to follow the line or follow a line different from the normal one.

Nos. 34 and 35. In tracing the winding line between the two X's, the normal trace the line connecting the bluish-green and yellowish-green, those with red-green deficiencies trace the line connecting the bluish green and purple, and those with total colour blindness and weakness are not able to trace the line.

Nos. 36 and 37. In tracing the winding line between the two X's, the normal trace the line connecting the purple and orange, those with red-green deficiencies trace the line connecting the purple and bluish-green, and those with total colour blindness and weakness are not able to trace the line.

No. 38. In tracing the winding line between the two X's, both the normal and those with colour vision deficiencies are able to trace the line.

Analysis of the results

As assessment of the readings of plates 1 to 21 determines the normality or defectiveness of colour vision. If 17 or more plates are read normally, the colour vision is regarded as normal. If only 13 or less than 13 plates are read normal, the colour vision is regarded as deficient. However, in reference to plates 18, 19, 20, and 21, only those who read the numerals 5, 2, 45, and 73 and read them easier than those on plates 14, 10, 13 and 17 are recorded as abnormal.

It is rare to find a person whose recording of normal answers is between 14-16 plates. An assessment of such a case requires the use of other colour vision tests, including the anomaloscope.

Number of Plate	Normal Person	Person with Red-Green Deficiencies				Person with Total Colour Blindness and Weakness
1	12	12				12
2	8	3				U
3	6	5				U
4	29	70				U
5	57	35				U
6	5	2				U
7	3	5				U
8	15	17				U
9	74	21				U
10	2	U				U
11	6	U				U
12	97	U				U
13	45	U				U
14	5	U				U
15	7	U				U
16	16	U				U
17	73	U				U
18	U	5				U
19	U	2				U
20	U	45				U
21	U	73				U
		Protan		Deutan		
		Strong	Mild	Strong	Mild	
22	26	6	(2)6	2	2(6)	
23	42	2	(4)2	4	4(2)	
24	35	5	(3)5	3	3(5)	
25	96	6	(9)6	9	9(6)	

The letter "U" shows that the plate cannot be read. The numerals in parenthesis show that they can be read but they are comparatively unclear.

		Red green blindness			
		Protan		Deutan	
Plate Number	Normal Person	Absolute (Protanopia)	Partial (Protanomalia)	Absolute (Deuteranopia)	Partial (Deuteranomalia)
26 & 27	A (along purple & red lines)	A (only purple line)	A (both lines but purple line is easier to follow)	A (only red line is traced)	A (both lines are traced but red is easier to follow)
Plate Number	Normal Person	Person with Red Green Deficiencies		Person with Total Colour Blindness and weakness	
28&29	U	A		U	
30&31	A (Bluish-Green line)	U		U	
32&33	A (Orange Line)	U		U	
34&35	A (Bluish-Green & Yellowish-Green line)	A (Bluish-Green & Purple)		U	
36&37	A (Purple & Orange)	A (Purple & Bluish-Green)		U	
38	A	A		A	



A: Able to trace the winding lines between 2 X's

U: Unable to trace the line connecting the two X's or follow the line


(): Along the colour mentioned

Simbologia / Index of symbols

	<p>Leggere e seguire attentamente le istruzioni per l'uso <i>Please read instructions carefully</i></p>
REF	<p>31292 Codice prodotto <i>Product code</i></p>
LOT	<p>Numero di lotto (vedi scatola / imballo) <i>Lot number (see box / package)</i></p>

	<p>Tenere al riparo dai raggi solari <i>Keep away from direct sunlight</i></p>
	<p>Custodire in luogo asciutto ed al riparo dall'umidità <i>Store in a dry place and avoid humidity.</i></p>

CE	<p>Prodotto conforme alla Direttiva Europea n. 93/42/CEE (e successive modifiche) sui dispositivi medici <i>Product complies with European Directive no. 93/42/EEC (and following amendments) regarding medical devices</i></p>

 FABBRICANTE / MANUFACTURER:
KANEHARA TRADING INC.
2-31-14 YUSHIMA, BUNKYO-KU,
TOKYO, JAPAN

EC REF OCULUS OPTIKGERÄTE GMBH