

MEASURING STEREOACUITY THRESHOLDS

The RDE test card is calibrated such that, when it is held 28 cm (11 inches) from the eyes, the disparity of the E test figure is 900 arc-seconds. By moving the RDE test card further away, the disparity is reduced by an amount indicated in the following table. The normal adult can usually resolve the E target out to about 2 meters (6-8 ft).

NOTE: Since moving the card further away from the person being tested also reduces the visual angle of the test target, the target becomes harder to see for non-stereo reasons as well as due to disparity reduction. Thus, while the RDE may be used to obtain stereoacuity thresholds, these thresholds must be viewed as under-estimates of the actual threshold.

DISTANCE	DISPARITY	DISTANCE	DISPARITY	DISTANCE	DISPARITY
50 cm	504"	2 ft	413"	9 ft	92"
100 cm	252"	3 ft	275"	10 ft	83"
150 cm	168"	4 ft	206"	11 ft	75"
200 cm	126"	5 ft	165"	12 ft	69"
300 cm	84"	6 ft	138"	13 ft	63"
400 cm	63"	7 ft	118"	14 ft	60"
500 cm	50"	8 ft	103"	15 ft	55"
				16 ft	52"

REFERENCE

For further details on the RDE test, see:

RD. Reinecke, and K. Simons. "A new stereoscopic test for amblyopia" American Journal of Ophthalmology, Oct. 1974, p. 714.

NOTE: Please store your stereotest in a cool, dry place when not in use. High heat and humidity may cause fading.

Do not spray any liquid directly on test or 3D viewers. Clean with soft, slightly damp cloth only.

THE RDE STEREOTEST

RANDOM

DOT

E



STEREO OPTICAL



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HOW TO USE THE RANDOM DOT E

INTRODUCTION

To better understand what is involved in the use of the Random Dot E (or RDE) put on the polarized glasses and view the RDE test card, which is labeled on the back like this:

NOTE: It is important to always hold the stereotests with the long sides on top and bottom,



like this

NOT like this



Assuming you have normal stereopsis, if you orient the RDE card so that the word "RAISED" on the label is upright, as in the illustration above, you should see a letter E on stereo depth on the front side. The E should appear to be raised up off of the test card in a manner similar to the model on the card labeled MODEL E.

(If you now rotate the RDE card, so the word "RECESSED" is right side up, the E figure on the front of the card will appear to sink behind the background, making an E-shaped hold. In normal test use, however, the RDE is only used with the "RAISED" right side up and the E figure raised above the card.)

Now look at the card labeled STEREO BLANK (with the polarized glasses still on). No stereo figure can be seen, just the dotted background.

To understand how the test works, hold the RDE card and the STEREO BLANK card side by side and look at them through the polarized glasses while you close or cover one eye. Under these conditions the "E" figure will disappear from the RDE card and both cards will look the same. This demonstrates how, if the person viewing the RDE test card and the STEREO BLANK cannot see a difference between them, it means that person probably cannot see the E figure on the RDE test card.

INSTRUCTIONS FOR ADMINISTERING THE RDE TEST TO YOUNG CHILDREN

1. Choose a well-lit glare-free location for the testing. There should be a dark wall or curtain, or other non-reflecting surface, behind the child's back to prevent reflections off the test cards that will make them hard to see. Check this by having an adult sit with his head at the level of where the child's head will be and observe the test cards while you hold them. If glare or reflections can be seen on the cards from the child's position, try tilting the cards back and forth to reduce the reflections or move to another location.

2. Place the polarized glasses on the child (do not remove prescription glasses during the test). If the child is nervous about putting on the glasses, tell him that they are "like sunglasses" or that they are "magic glasses" and that "you have to wear the magic glasses to see the magic pictures."

3. When showing the child the test targets, be sure he or she keeps his or her head straight up, as tilting to one side (or allowing the glasses to tilt on his nose) will interfere with the test.

4. Hold the MODEL E card up to the child and ask him or her what the figure is. If the child cannot name it or has difficulty, point at the E figure on the card and say "That's an 'E' or simply 'Eee'";

5. Hold the RDE card up next to the STEREO BLANK card at about 50cm (20 inches) from the child and ask "Which card has the E?" or "Where's the E, here (pointing at STEREO BLANK) or here (pointing at RDE card)?"

6. Put the RDE card and the STEREO BLANK cards behind your back and change their positions, so that whichever one was on the right is on the left and vice versa. Then show the child the two cards side by side again and ask again where the E is.

7. Repeat this process at least 4 times, but more if the child hesitates or gives wrong answers. Once the task is understood, the answer should be correct every time if the child can see the stereo E figure on the RDE card.

8. Now, move the cards back to at least one meter (40 inches) from the child and repeat the test. Again, test the child's ability to point to the E at least four times in a row, shuffling them behind your back in between each test.

NOTE: Although you shuffle the cards behind your back every time, only trade the left and right positions of the RDE and STEREO BLANK cards some of the time. That way, the child has no way of knowing which way around the cards are by knowing the way they were in the previous test.

VISION SCREENING CRITERIA

If the child tested (a) cannot distinguish the E figure in the RDE card at all, or (b) can only see it when the card is approximately 50 cm (20 inches) or closer to him, the child should be tested further by an eye doctor.