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**Instructions for Use:**

<b>Compact Magnetic Farnsworth Dichotomous D-15</b>	<b>15106</b>
<b>Compact Magnetic Lanthony Desaturated D-15</b>	<b>15107</b>

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**Included with Compact D-15 Tests:**  
**C-Daylight Glasses (15115)**  
**Magnetic Stick**  
**Score Sheet**

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Farnsworth's D-15 test is called dichotomous because it was designed to separate persons tested into one of two groups: 1) strongly color deficient or 2) mildly color deficient and/or color normal. The Compact Magnetic Farnsworth D-15, therefore, is comprised of color arrangement caps that have vivid colors (i.e.: high spectral saturation). This makes the D-15 a relatively easy test and failure is indicative of a strong color deficiency. (NOTE: Saturated cap numbers are not circled)

In contrast, the Lanthony desaturated 15-hue panel has test caps with the same colors, but are much less vivid (i.e.: desaturated). The Compact Magnetic Lanthony test, therefore, is much more sensitive to even minor color deficiencies, which makes it an excellent test for the detection of mild color loss. Persons passing the Lanthony panel can be considered color normal. (NOTE: Desaturated cap numbers are circled)

Compact Magnetic D-15's are reusable

**Intended Use:**

These color arrangement test panels are useful because they provide a map of the patient's color confusions no matter which axis of the patient's color space is involved. This is how the Protan, Deutan and Tritan color confusion axes are each evaluated in one test. In addition, utilizing both the Compact Magnetic Farnsworth and Lanthony D-15 Test affords the examiner the opportunity to test at two levels of sensitivity, thus enabling the quantification of the level of the defect.

**Illumination:**

To be accurate, the Compact Magnetic Farnsworth/Compact Magnetic Lanthony D-15 Test must be conducted under daylight conditions (i.e.: CIE-Illuminant-C). This can be accomplished by a Macbeth lamp or by the use of an incandescent 60, 75 or 100 Watt bulb combined with the patient wearing Gulden Ophthalmics "C" Daylight Glasses which accurately color corrects common incandescent sources to Illuminant-C (i.e.: 6500oK).

**Handling:**

Do not expose to continuous light or extreme temperatures. Preservation of the test quality over time requires that the colored surfaces of the test caps be protected from becoming faded or soiled. The closed storage box will protect the colors from dirt. Keeping the black lid on when not in use will protect the colors from fading due to light exposure.

**Test Procedure:**

The lid can be lifted off the velcro seal revealing the colored D-15 chips inside the enclosed case. The caps should be arranged randomly in the case. The patient is instructed to locate the cap that is closest in color to the starter cap, which remains fixed in the case and has a white dot on it. The magnetic stick is used to maneuver the magnetic D-15 chips around the test case to appropriate positions. Once located, the first cap selected should be slid in the tunnel to rest adjacent the starter cap. Next, the patient should choose the now closest in color cap to the one that was just put into the tunnel. This process is repeated until all the caps in the testing case are arranged next to each other and the starting cap within the tunnel. At this point, allow the patient to make any final adjustments to the position of any test cap, with the goal of making the caps proceed logically from left to right in terms of their spectral hue progression.

Replace the lid on the case. Turn the case upside-down to view the sequential numbering. Record the order of cap placement on the Gulden test score sheet - connecting the dots on the score sheet creates an interpretable plot.

**Interpretation:**

Complete passing occurs when the sequence of cap placement is in numerical order and the circular plot has no crossovers. A mild failure occurs when there are crossovers occurring around the circle, usually involving 1 or 2 cap positions. Major errors occur when the crossovers go across the circle graph, frequently defining an axis of the color deficiency type.

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**Instructions for Use:**

<b>Circular Magnetic Farnsworth Dichotomous D-15</b>	<b>15109</b>
<b>Circular Magnetic Lanthony Desaturated D-15</b>	<b>15110</b>

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**Included with Circular Magnetic D-15 Tests:  
C-Daylight Glasses (15115)  
Magnetic Stick**

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Farnsworth's D-15 test is called dichotomous because it was designed to separate persons tested into one of two groups: 1) strongly color deficient or 2) mildly color deficient and/or color normal. The Compact Magnetic Farnsworth D-15, therefore, is comprised of color arrangement caps that have vivid colors (i.e.: high spectral saturation). This makes the D-15 a relatively easy test and failure is indicative of a strong color deficiency. (NOTE: Saturated cap numbers are not circled)

In contrast, the Lanthony desaturated 15-hue panel has test caps with the same colors, but are much less vivid (i.e.: desaturated). The Compact Magnetic Lanthony test, therefore, is much more sensitive to even minor color deficiencies, which makes it an excellent test for the detection of mild color loss. Persons passing the Lanthony panel can be considered color normal. (NOTE: Desaturated cap numbers are circled)

Circular Magnetic D-15's are reusable

**Intended Use:**

These color arrangement test panels are useful because they provide a map of the patient's color confusions no matter which axis of the patient's color space is involved. This is how the Protan, Deutan and Tritan color confusion axes are each evaluated in one test. In addition, utilizing both the Compact Magnetic Farnsworth and Lanthony D-15 Test affords the examiner the opportunity to test at two levels of sensitivity, thus enabling the quantification of the level of the defect.

**Illumination:**

To be accurate, the Compact Magnetic Farnsworth/Compact Magnetic Lanthony D-15 Test must be conducted under daylight conditions (i.e.: CIE-Illuminant-C). This can be accomplished by a Macbeth lamp or by the use of an incandescent 60, 75 or 100 Watt bulb combined with the patient wearing Gulden Ophthalmics "C" Daylight Glasses which accurately color corrects common incandescent sources to Illuminant-C (i.e.: 6500oK).

**Handling:**

Do not expose to continuous light or extreme temperatures. Preservation of the test quality over time requires that the colored surfaces of the test caps be protected from becoming faded or soiled. The closed storage box will protect the colors from dirt. Keeping the black lid on when not in use will protect the colors from fading due to light exposure.

**Test Procedure:**

The lid can be lifted off the velcro seal revealing the colored D-15 chips inside the enclosed case. The caps should be arranged randomly in the case. The patient is instructed to locate the cap that is closest in color to the starter cap, which remains fixed in the case and has a white dot on it. The Magnetic stick is used to maneuver the magnetic D-15 chips around the test case to appropriate positions. Once located, the first cap selected should be slid in the tunnel to rest adjacent the starter cap. Next, the patient should choose the now closest in color cap to the one that was just put into the tunnel. This process is repeated until all the caps in the testing case are arranged next to each other and the starting cap within the tunnel. At this point, allow the patient to make any final adjustments to the position of any test cap, with the goal of making the caps proceed logically from left to right in terms of their spectral hue progression.

General scoring procedure: When all testing is completed, the black lid of the case is placed back on top to prevent soiling or fading of the caps. The case is then turned over, exposing the answer key and the ordering numbers on the bottom of the caps.

To score, examine the cap order. As you note the progression of the caps, you will slide your finger from number to number on the answer key (correct positioning number indicated around the circle).

For example, if the first three caps placed by the patient are "1...2...13," you will slide your finger from 1 to 2 to 13 on the answer key. Note that the line formed when you trace from 2 to 13 parallels the Protan line. The line or lines which are most often paralleled as you slide your finger indicate the type of color deficiency (Protan, Deutan, and Tritan). Please refer to the video on the product webpage for a complete demonstration.

Interpretation: Complete passing of either test occurs when the sequence of cap placement is exactly correct, and the finger tracing is a complete circle. A mild failure of either test occurs when there is an incorrect positioning of caps side by side, usually involving 1 or 2 cap positions. Major color errors occur when the finger tracing goes across the answer key, parallel to an axis of color indicating the color deficiency type.

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