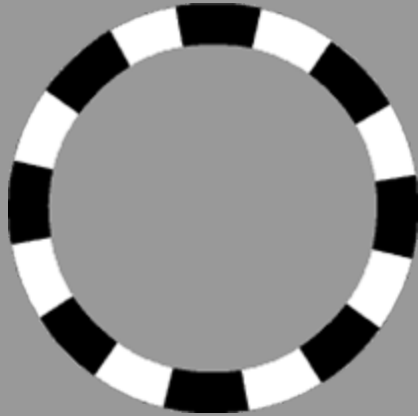
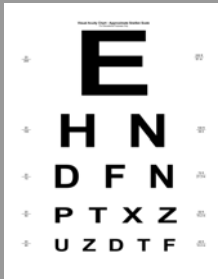


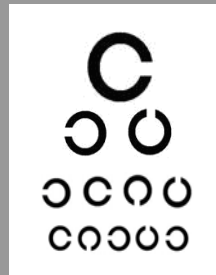
The **Dyop**® Revolution



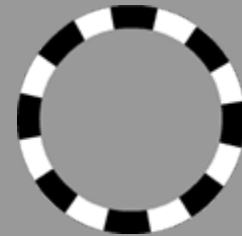
Bringing acuity into the 21st Century



Circa 1862



Circa 1888



Circa 2015

1984 International Vision Standards

Turning acuity into guesswork



Letter optotypes are culturally biased

Correctly guessing 3 out of 5 letters is scientifically imprecise

A 1.0 arc minute gap is akin to using 3.0 as the value of Pi

A Black/White-on-Gray stimulus is more precise than Black-on-White

Letter variations give an imprecise stimulus responses

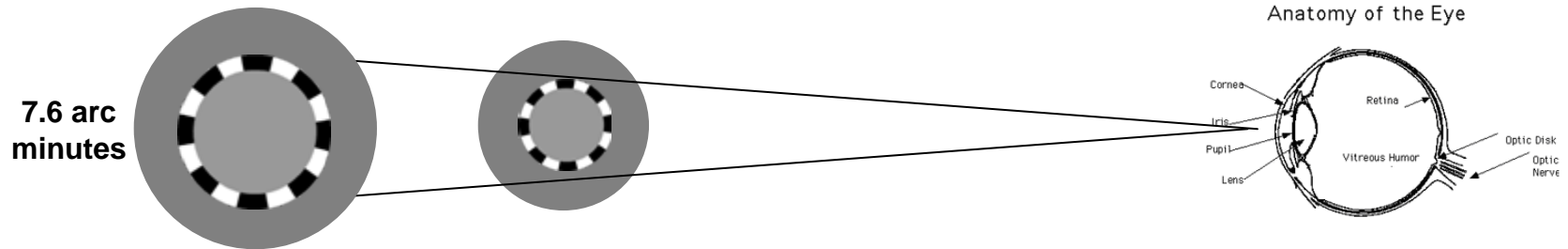
“Snellen letters must be 15% smaller ... to be equivalent to the Landolt ring.”

- Wolfgang Grimm, 1994 Optometry and Vision Science, Vol. 71, No. 1, pp 6-13.

Dyop® Mechanics

Spatial Triangulation

Objects are more clearly seen when they are bigger and/or closer



Rotation detection at the farthest distance is a direct measure of acuity.

The angular arc width of the Dyop® 20/20 detection image is a constant 7.6 arc minutes.

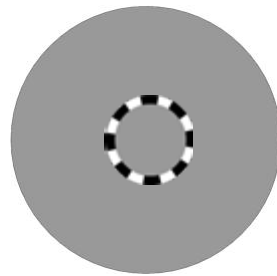
As the image gets further away, the diameter of the calculated Dyop® 20/20 Distance image needs to be larger to be able to detect its rotation.

The 10% stroke width is a more precise Minimum Angle of Resolution.

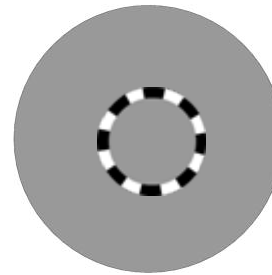
The Black/White-on-Gray image creates a more precise photoreceptor strobic response.

The **Dyop**® Revolution

Accurate and Rapid Acuity Determination



20



25

**Acuity accuracy without over-minused refraction.
You either detect the rotation or you don't.**

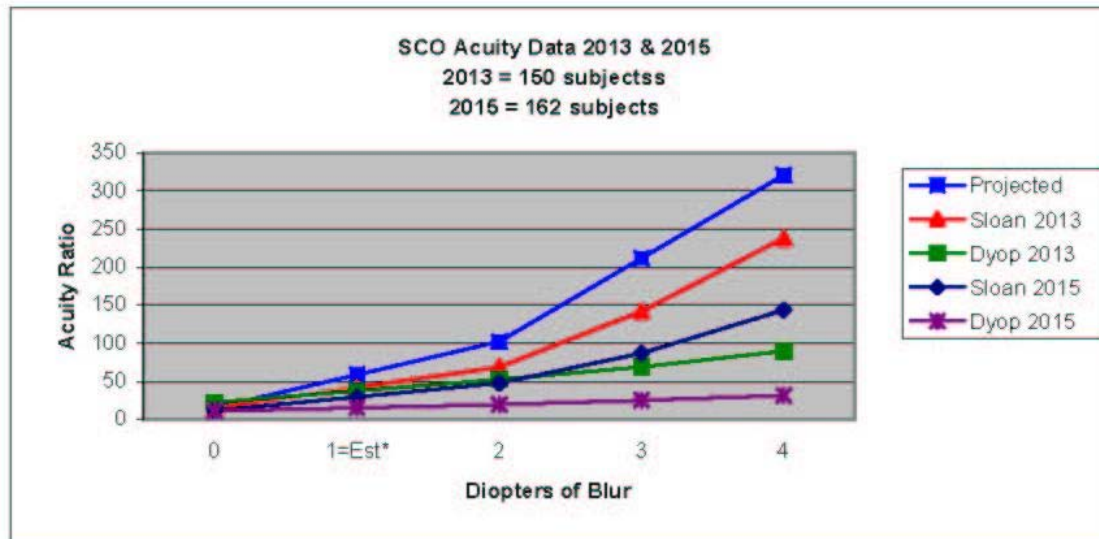
SCO Acuity Data 2013 & 2015 Dyop® versus Sloan

Diopters of Blur	0	1=Est*	2	3	4
Projected Sloan **	14.9	58.5	102.0	211.6	320.9
Sloan 2013 **	14.8	41.6	68.4	141.8	238.1
Dyop 2013 ***	22.2	37.3	52.4	68.7	89.5
Sloan 2015 **	11.3	29.3	47.3	86.7	143.6
Dyop 2015 ***	10.8	15.0	19.2	24.8	31.1

* NOTE: values for 1 Diopter of blur value are an averaged estimate

** NOTE: 20/20 Letter-based optotypes have 5.0 arc minute and 8.8 mm endpoint diameter at a 20 foot viewing distance

*** NOTE: 20/20 Dyop optotypes have 7.6 arc minute and 13.5 mm endpoint diameter at a 20 foot viewing distance



Increased Dyop® Consistency

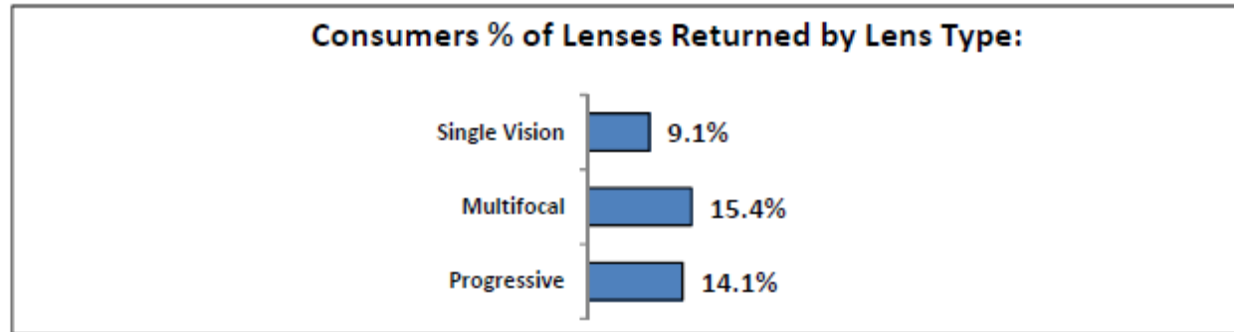
Study Condition	Variance
Sloan letters (2013)	0.233
Sloan letters, Harris Method (2014)	0.193
Dyop – Triplet (2013)	0.060
Dyop – Doublet (2014)	0.035

Table 1 summarizes the variance in the test conditions over the two years of the study.

Acuity Study – Dr. Paul Harris, SCO
AAOpt – 2013 / ARVO - 2015

Eye Glass Returns by Lens Type

Source: The Vision Council, 2012 Warranty and Redo White Paper



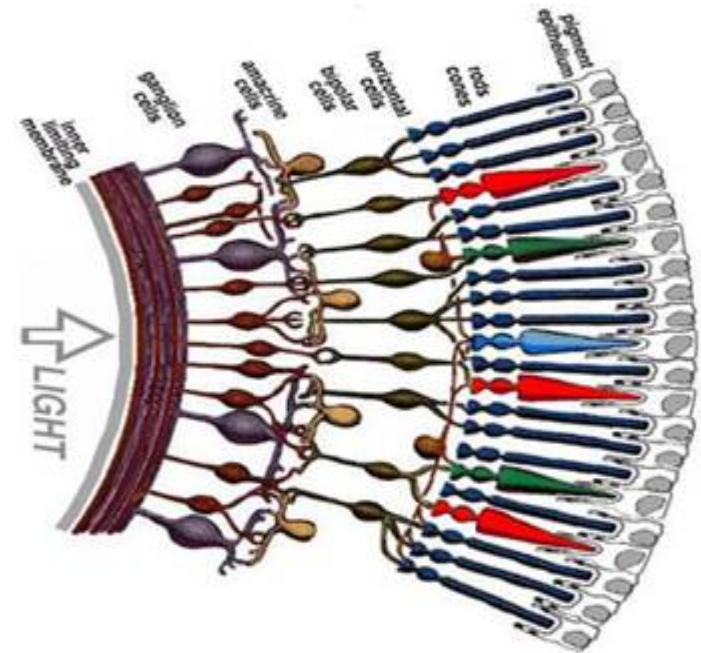
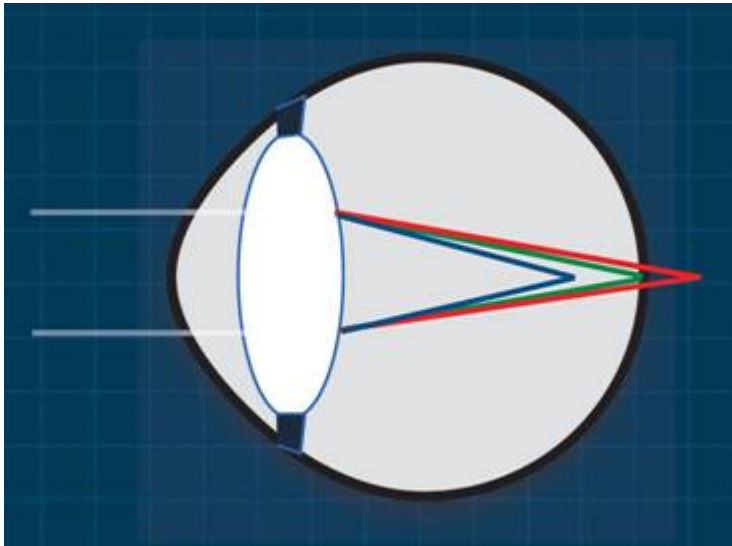
WEIGHTED
Average Percentage Redos
PER MONTH

		<u>% of Returns</u>	<u>% of Jobs</u>
Total (all Rx)	1,590	100.0%	10.7%
Single Vision Rx	572	36.0%	8.8%
Multifocal Rx (Bifocal / Trifocal Only)	240	15.1%	9.7%
Total Progressive Rx (All)	778	48.9%	15.2%
Anti-reflective (All)	842	52.9%	14.0%
Photochromic	386	24.3%	12.5%
Polarized Rx	123	7.8%	12.4%
Number of labs reporting	23	23	23

Eyeglass returns cost time and money.

Dyop® Color Applications

We don't just see in black and white



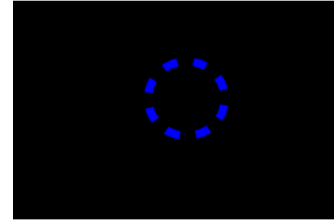
Acuity is controlled by the chromatic triangulation of the red (L), green (M), and blue (S) color-responsive photoreceptors. An excess in red photoreceptors creates a potential for dyslexia-type symptoms

Dyop® Dyslexia Screening



Green

White Background



Blue

Black Background

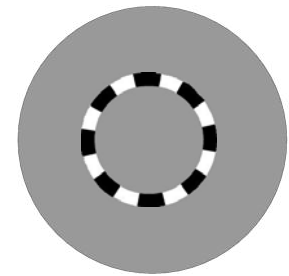
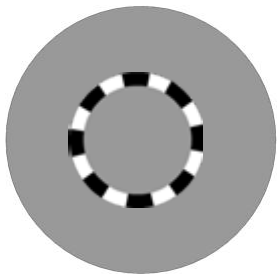
Photoreceptor Response/Distribution

Vision / Photoreceptor Type	Red % (L)	Green % (M)	Blue % (S)
Green-Focused Vision	50	45	5
Red-Focused Vision	75	20	5

Being able to more distinctly see the Blue-on-Black Dyop® versus the Green-on-White Dyop® indicates Red-Focused Vision and a potential for symptoms of dyslexia, migraines, and epilepsy.

Dyop® Infant Acuity

Rapid (30 seconds) and precise test for infant acuity that doesn't need reading skills versus the Teller test which takes 10 minutes in a controlled environment

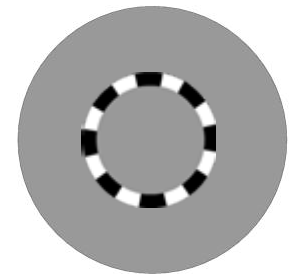
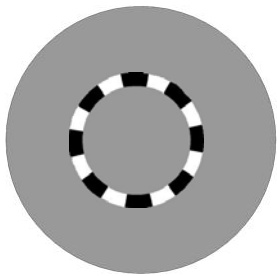


Rotating Dyops™ alternate from the Left to the Right Panels with the Dyop® images getting incrementally smaller with each cycle.

Seeing the “4 foot” Dyop® 20/20 images at a 3 foot distance indicates 20/20 acuity. At a 5 foot viewing distance the “4 foot” Dyop® 20/20 rotation cannot be detected.

Dyop® Infant Acuity

Rapid (30 seconds) and precise test for infant acuity that doesn't need reading skills versus the Teller test which takes 10 minutes in a controlled environment



Rotating Dyops™ alternate from the Left to the Right Panels with the Dyop® images getting incrementally smaller with each cycle.

Seeing the “4 foot” Dyop® 20/20 images at a 3 foot distance indicates 20/20 acuity. At a 5 foot viewing distance the “4 foot” Dyop® 20/20 rotation cannot be detected.

The Dyop[®] Revolution



The Dyop[®] as the Vision Standard

- Clinical and Research standards are identical**
- Minimize Clinical variations**
- Eliminate cultural and educational bias**
- Based upon physiology rather than subjective comprehension**
- Significantly more accurate**
- Significantly faster to administer**
- Significant increase in low vision testing ability**
- Provide infant and non-literate testing relevant to adult acuity**

The **Dyop**[®] Revolution



Taking the guesswork out of acuity

Dyop[®] Applications

Adult Acuity/Refraction

Junior (Infant/Children) Screening

Color Screening

Dyslexia Screening

The **Dyop**[®] Revolution



**Helping the world see clearly,
one person at a time**

**50,000 U.S. eye care professionals
250,000 global eye care professionals**

**50% of vision care doctors still use imprecise projection
systems versus computerized refraction systems**

The Dyop® Revolution



**Helping the world see clearly,
one person at a time**

Increased Dyop® accuracy = Increased Dyop® efficiency

**1 more patient per hour at \$50 per patient revenue
= \$48,000 in annual added revenue per doctor
Dyop® added value is only 80 cents per patient
100 million US patients annually
2 billion Global patients annually**