On behalf of Vision Expo, we sincerely thank you for being with us this year.

Reminder to Complete Your Session Evaluations!

Please be sure to complete your digital session evaluations for each course you attended! Your feedback is important to us as our Education Planning Committee considers content and speakers for future meetings to provide you with the best education possible.

vision expo

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Financial Disclosure

- Kelly Rosemann is an employee of Horizons Optical.
- All relevant relationships have been mitigated.

2

Mastering Optics

Navigating Lens Centration Charts & Lens Compensation

3

Objectives

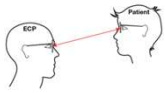
1. Review the importance of proper measurements.
2. Understand how to order lenses using centration charts effectively and efficiently.
3. Demonstrate how to verify lenses using centration charts effectively and efficiently.
4. Identify the differences between compensated and prescribed prescriptions.

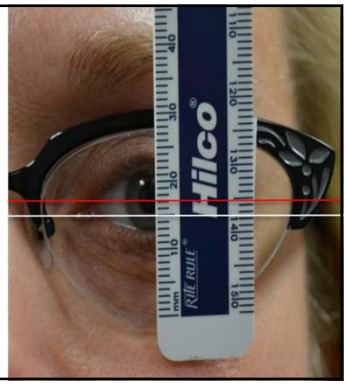
4

Proper Measurements

Parallax Error

- Eye Level is Important
- 1″ = almost 2mm





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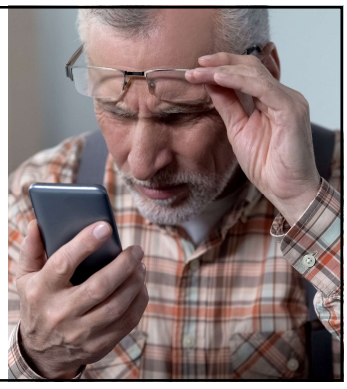
Proper Measurements

Frame Adjustments

- 4-point alignment
- All frames need adjustments
- Everything is backwards
- Proper adjustment = proper measurement
- Proper adjustment + proper measurement = clear vision



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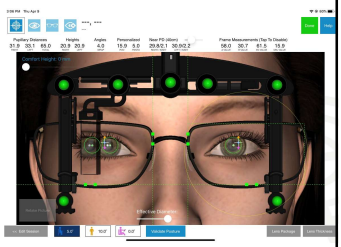
Proper Measurements

Digital Measurements

- Order with normal Rx
- Monocular PD's
- Monocular fitting heights
- Use POW measurements



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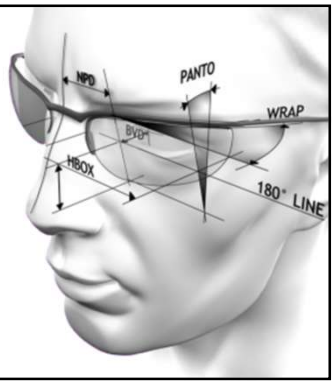
Proper Measurements

Position of Wear (POW) Measurements

- Fitting Height
- Pupillary Distance (PD)
- Vertex distance
- Pantoscopic angle
- Wrap angle



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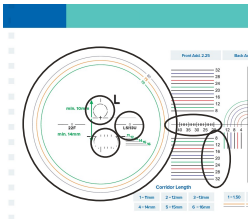
Centration Charts

More than one purpose

- Lens identification
- Lens verification
- Corridor length selection
- Cut-out verification



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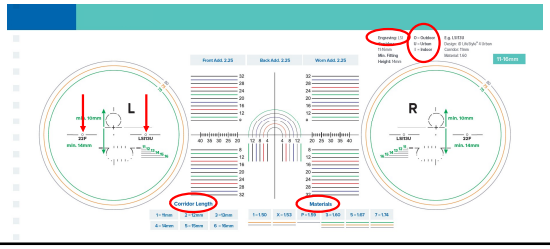
Centration Charts

Lens verification



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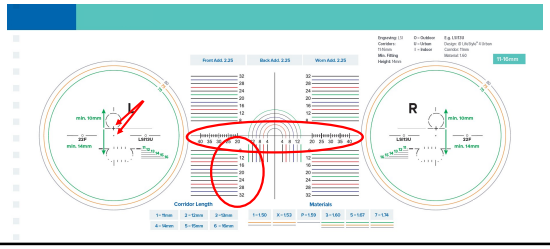
Centration Charts

Lens verification



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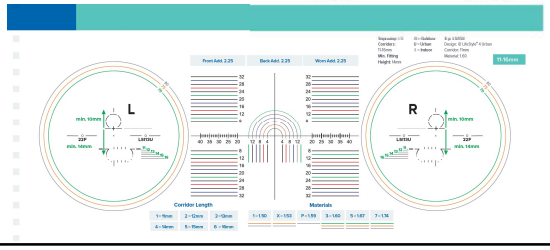
Centration Charts

Lens verification



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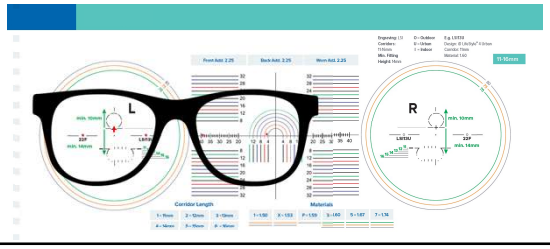
Centration Charts

Lens verification



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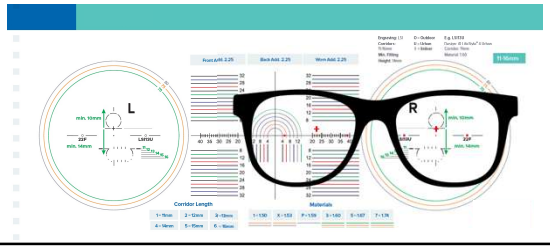
Centration Charts

Lens verification



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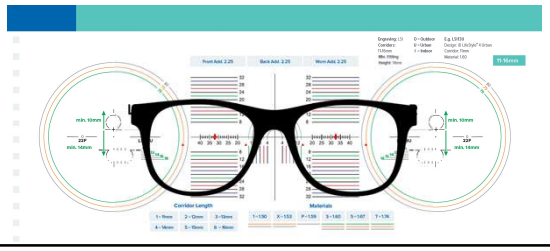
Centration Charts

Lens verification



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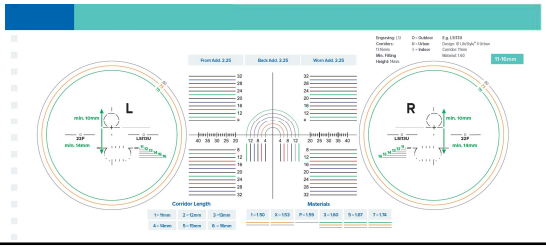
Centration Charts

Lens corridor selection



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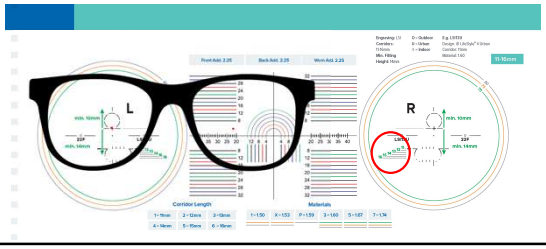
Centration Charts

Lens corridor selection



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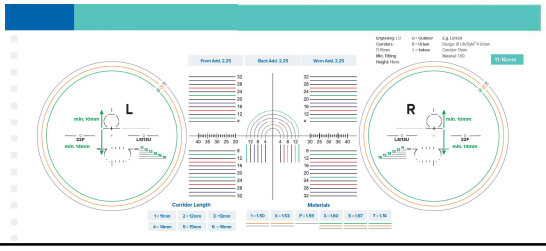
Centration Charts

Cut-out verification



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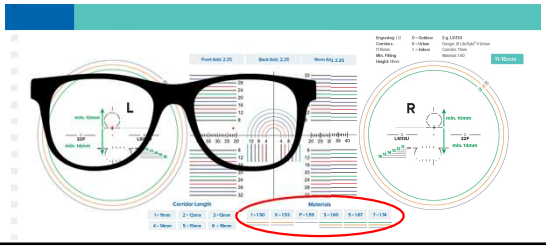
Centration Charts

Cut-out verification



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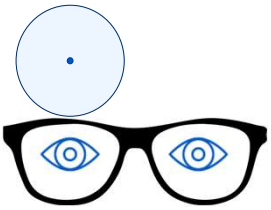
Centration Charts

Cut-out issues

Dual Side Technology
- Add power on both sides
- Molded front
- Can not be decentered
- Frame fit is crucial



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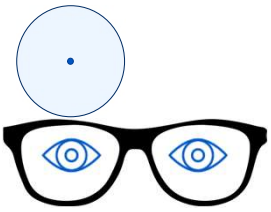
Centration Charts

Cut-out issues

Backside Technology
- Uses SV lens blanks
- Rx and PAL design are on back
- Lenses can be decentered
- Great for larger frames



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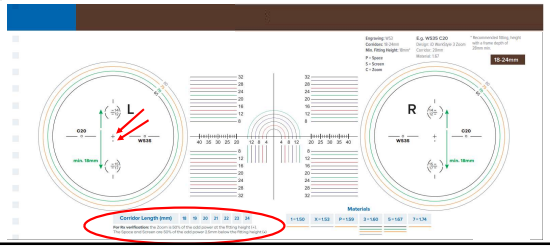
Centration Charts

Occupational lenses



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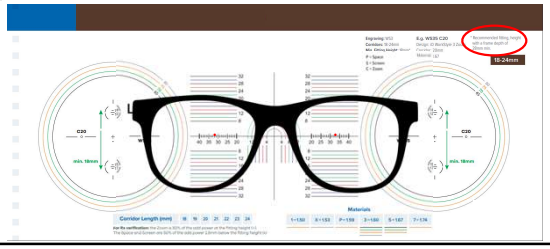
Centration Charts

Occupational lenses



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Lens Compensation

- Should the patients effective Rx be equal to their prescribed Rx?
- Should we verify the lens to the prescribed Rx or the compensated Rx?

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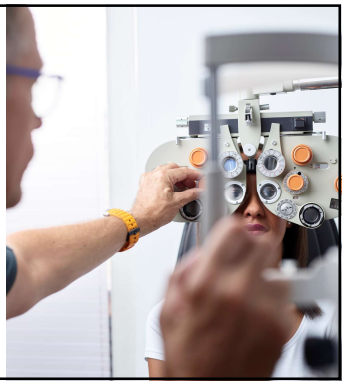
Refractive Lenses

Lenses in a phoropter

- Small in diameter
- Flat in profile
  - 0 Base curve
  - 0˚ Panto Angle
  - 0˚ Wrap
- OC height in front of pupil



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Refractive Lenses

Exam Lane

- 20 ft away
- Dark letters – white background
- Low lit/dark room
- Backlit chart or projected

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Eyeglass Lenses

Lenses in a frame

- Large in diameter
- Curved
  - 5-10˚ Panto angle
  - 4-10˚ Wrap
  - 9–20 mm Vertex
- OC height is below the pupil

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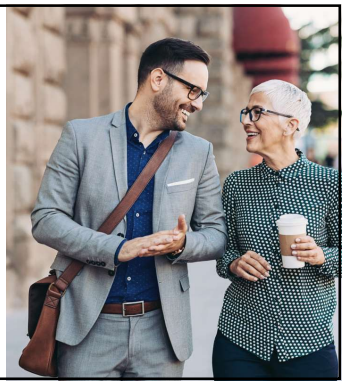
Eyeglass Lenses

Real World

- Variable viewing distances
- Variable lighting conditions
- Variable viewing angles



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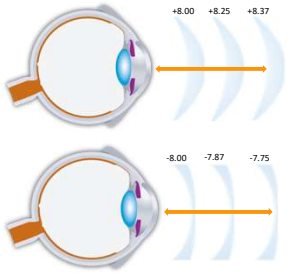
Frame Positioning

Vertex Distance

- Front of eye – back of lens
- Affects lens power
  - Further away = more plus
  - Closer = more minus



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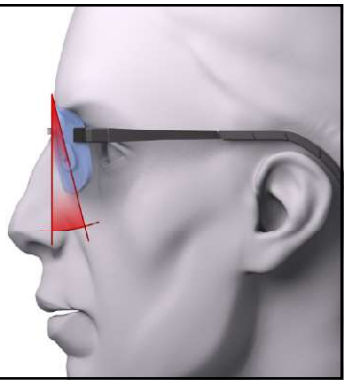
Frame Positioning

Pantoscopic Tilt

- Vertical lens angle
- OC height changes
- Changes effective Rx
  - Changes spherical power
  - Induces astigmatism



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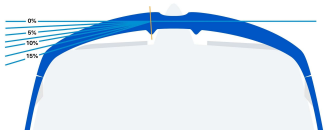
Frame Positioning

Wrap Angle
- Face form
- Changes PD
- Changes effective Rx
  - Changes spherical power
  - Induces astigmatism



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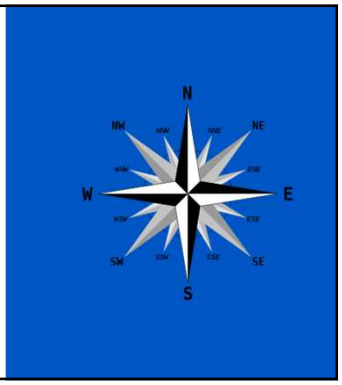
Lens Compensation

360˚ Visual Comfort™
- Vertical
- Horizontal
- Oblique



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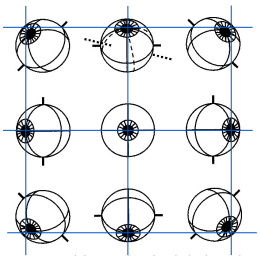
Lens Compensation

Orientation
- Listing's Law
  - 3-D orientation of the eye
  - Axis of eye rotation



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Lens Compensation

- Should the patients effective Rx be equal to their prescribed Rx?
- Should we verify the lens to the prescribed Rx or the compensated Rx?

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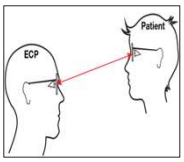
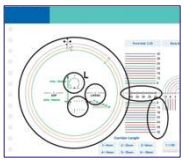
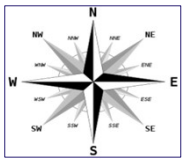
Summary







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Presented by:

Kelly Rosemann, ABOC
Business Development Manager
North America
Kelly.Rosemann@HorizonsOptical.com

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