

**Supplemental file 1: The refractive data of the study participants presented as:
sphere/cylinder x axis**

FASD		
Case number	Right eye	Left eye
Case 1	+0.50/-0.25x151	+0.75/-0.25x2
Case 2	+3.75/0x0	+4.25/-0.50x20
Case 3	+2.75/0x0	+2.75/0x0
Case 4	+0.75/0x0	+0.75/0x0
Case 5	+6.25/-2x170	+5.25/-2x180
Case 6	+0.75/-0.75x75	+0.25/-0.50x100
Case 7	+1.25/-0.25x8	+1.75/-1x2
Case 8	+11/-3x3	+10.75/-2.75x179
Case 9	+0.75/-0.50x164	+0.75/-0.25x163
Case 10	+2.25/-0.50x37	+1.50/-0.25x148
Case 11	+0.25/-0.25x91	+0.25/0x0
Case 12	+1/0x0	+1/0x0
Case 13	-0.75/-0.25x21	0/-0.50x21
Case 14	-0.50/-0.50x171	-0.75/0x0
Case 15	+4.50/-2x170	+3/-1x10
Case 16	+0.50/-0.75x80	-0.25/-0.25x100
Case 17	+3.75/-0.25x69	+2.50/-0.25x0
Case 18	-0.25/-1.75x4	0/-1.25x169
Case 19	+2.75/-1.50x10	+3/-1x160
Case 20	-1.50/-0.50x0	-2/-0.25x0
Case 21	-4.25/0x0	-4/-0.75x187

Controls		
Control number	Right eye	Left eye
Control 1	+0.50/-1.25x87	+0.75/-0.25x135
Control 2	+1.75/-1x80	+1.25/-1x87
Control 3	+1.50/-0.25x56	+1.75/-0.25x147
Control 4	+1.50/-0.50x101	+1.25/-0.25x80
Control 5	+0.75/-0.25x18	+0.75/-0.50x174
Control 6	+0.50/-0.25x135	+0.50/-0.25x135
Control 7	+0.50/-0.25x95	+0.75/-0.25x122
Control 8	+1.75/-0.50x93	+2/-0.50x71
Control 9	0/-0.75x85	0/-0.50x89
Control 10	-0.25/-0.75x98	-0.25/-0.50x93
Control 11	+0.75/-0.50x77	+0.75/-0.50x69
Control 12	0/-0.25x77	+0.25/0x0
Control 13	+3.25/-0.25x26	+4.25/-0.25x91
Control 14	+0.50/-0.25x56	+0.75/-0.25x178
Control 15	+2.75/-0.50x73	+3/-0.25x102
Control 16	+5.50/0x0	+6.50/0x0
Control 17	+2.25/-0.25x99	+2.25/-0.25x84
Control 18	+1/-0.25x87	+1/-0.25x120
Control 19	+0.50/-0.25x109	+0.50/-0.25x64
Control 20	+0.75/-0.25x79	+0.75/-0.50x84
Control 21	+0.50/-0.25x122	+0.75/-0.25x43