CLAIMS

WHAT IS CLAIMED IS:

1. A method of evaluating an efficacy of an ophthalmic lens in controlling at least one sightedness impairment of at least one wearer of said ophthalmic lens, the method comprising:

obtaining data representative of optical characteristics of the ophthalmic lens, characteristics of said at least one wearer, and behavior of said at least one wearer; and

determining, by at least one processor based on a predetermined relationship model, the efficacy of the ophthalmic lens for said at least one wearer from said representative data corresponding to said at least one wearer,

wherein the predetermined relationship model compares the data representative of optical characteristics of the ophthalmic lens, characteristics of said at least one wearer, and behavior of said at least one wearer, to data of a database of lenses characteristics/efficacy, and

wherein the predetermined relationship model comprises correlating or linking through a mathematical function a criterion and a performance factor, being the efficacy, for each lens of the database, and

wherein the efficacy is configured for choosing an appropriate ophthalmic lens suited to control said at least one sightedness impairment of said at least one wearer.

2. The method of claim 1, wherein at least part of the characteristics of the at least one wearer is induced by the ophthalmic lens.

3. The method of any one of claims 1-2, wherein the behavior of the at least one wearer comprises proportions of time spent in near and far vision.

4. The method of any one of claims 1-3, wherein the optical characteristics of the ophthalmic lens comprise optical power of the ophthalmic lens in at least one location of the ophthalmic lens.

5. The method of claim 4, wherein the at least one location of the ophthalmic lens comprises at least one of a near vision point or a far vision point of the ophthalmic lens.

6. The method of any one of claims 1-5, wherein the characteristics of the at least one wearer comprise at least one of central refraction, one or more peripheral refractions, or accommodative lag.

7. The method of claims 6, wherein the one or more peripheral refractions are related to eye shape, and the accommodative lag is related to a psychologic profile of the at least one wearer.

8. The method of any one of claims 1-7, wherein the determining of the efficacy of the ophthalmic lens comprises:

calculating an optical index for the ophthalmic lens based on said optical characteristics of the ophthalmic lens, said characteristics of said at least one wearer, and said behavior of said at least one wearer; and

determining the efficacy of the ophthalmic lens from said optical index based on the predetermined relationship model.

9. The method of claim 8, wherein the optical index is calculated as a weighted function of values on at least one location of retina of the at least one wearer.

10. The method of claim 9, wherein the optical index is calculated based on one or more of: a percentage of time spent in far vision, a percentage of time spent in near vision, weights for the at least one location of the retina of the at least one wearer, refractions for the at least one location of retina of the at least one wearer, optical powers of the ophthalmic lens corresponding to the at least one location of retina, or accommodative lag induced by the ophthalmic lens at a given distance.

11. The method of any one of claims 8-10, wherein the determining of the efficacy of the ophthalmic lens comprises selecting the ophthalmic lens for a wearer from a plurality of ophthalmic lenses based on a plurality of optical indexes calculated for the plurality of ophthalmic lenses, wherein each of the plurality of optical indexes is calculated at least partially based on characteristics of the wearer and behavior of the wearer.

12. An apparatus for evaluating an efficacy of an ophthalmic lens in controlling at least one sightedness impairment of at least one wearer of said ophthalmic lens, the apparatus comprising:

a memory; and

at least one processor coupled to the memory and configured to:

obtain data representative of optical characteristics of the ophthalmic lens, characteristics of said at least one wearer, and behavior of said at least one wearer; and

determine, based on a predetermined relationship model, the efficacy of the ophthalmic lens for said at least one wearer from said representative data corresponding to said at least one wearer,

wherein the predetermined relationship model compares the data representative of optical characteristics of the ophthalmic lens, characteristics of said at least one wearer, and behavior of said at least one wearer, to data of a database of lenses characteristics/efficacy, and

wherein the predetermined relationship model comprises correlating or linking through a mathematical function a criterion and a performance factor, being the efficacy, for each lens, and

wherein the efficacy is configured for choosing an appropriate ophthalmic lens suited to control said at least one sightedness impairment of said at least one wearer.

13. The apparatus of claim 12, wherein the behavior of the at least one wearer comprises proportions of time spent in near and far vision.

14. The apparatus of any one of claims 12-13, wherein the optical characteristics of the ophthalmic lens comprise optical power of the ophthalmic lens in at least one location of the ophthalmic lens.

15. A computer program for evaluating an efficacy of an ophthalmic lens in controlling at least one sightedness impairment of at least one wearer of said ophthalmic lens, the computer executable code comprising instructions for:

obtaining data representative of optical characteristics of the ophthalmic lens, characteristics of said at least one wearer, and behavior of said at least one wearer; and

determining, based on a predetermined relationship model, the efficacy of the ophthalmic lens for said at least one wearer from said representative data corresponding to said at least one wearer,

wherein the predetermined relationship model compares the data representative of optical characteristics of the ophthalmic lens, characteristics of said at least one wearer, and behavior of said at least one wearer, to data of a database of lenses characteristics/efficacy, and

wherein the predetermined relationship model comprises correlating or linking through a mathematical function a criterion and a performance factor, being the efficacy, for each lens, and

wherein the efficacy is configured for choosing an appropriate ophthalmic lens suited to control said at least one sightedness impairment of said at least one wearer.