

illumination in Ophthalmology

The Chandelier

Scope

Development of a light source for
retina illumination

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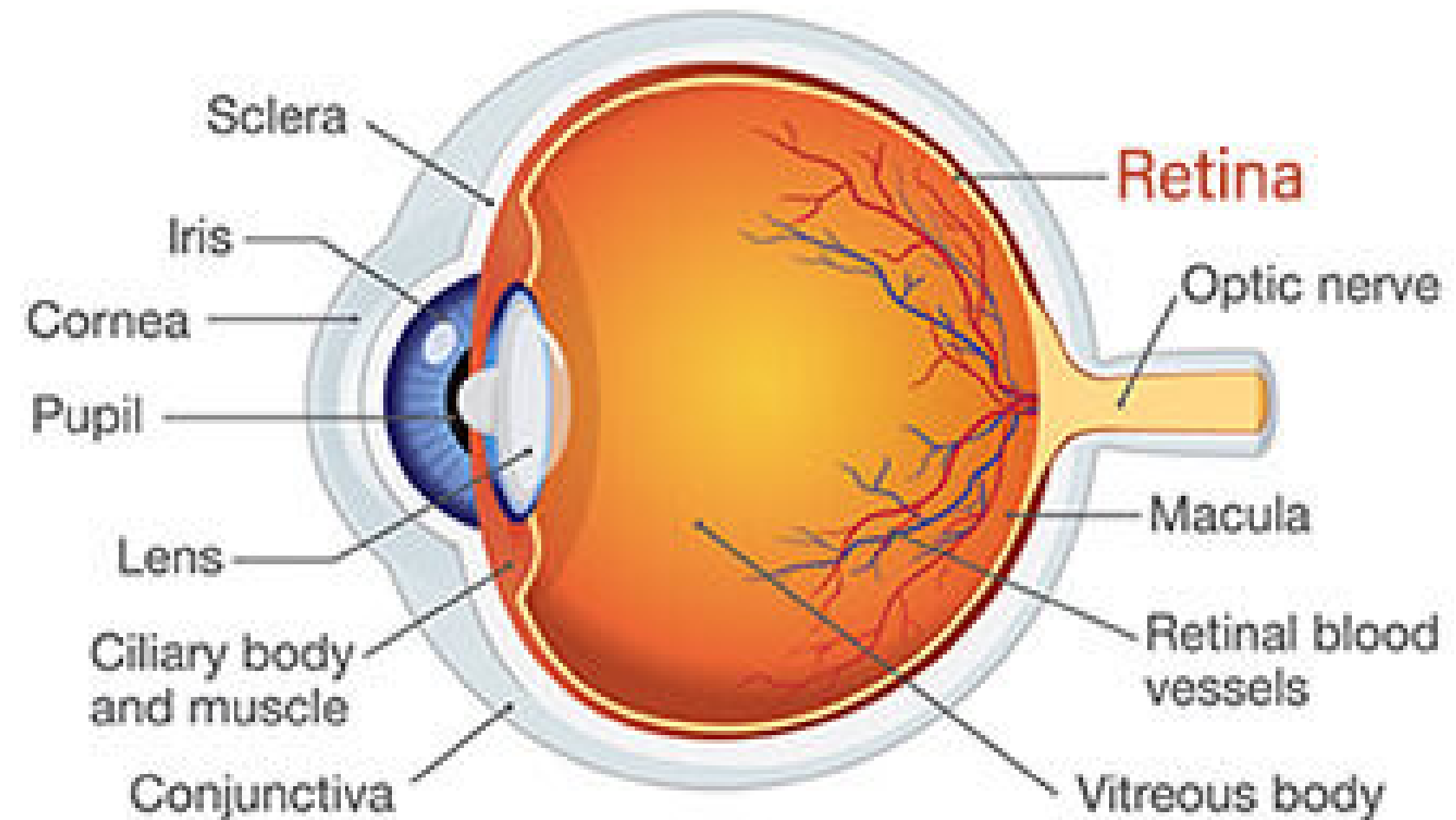


Demands of Posterior Eye Surgery

Phase One

The retina shall be illuminated very homogeneously with a certain color temperature to be adjusted by the surgeon.

To achieve these requirements, normally, a so called chandelier is being used. This chandelier includes a thin light fiber which can be placed accordingly for optimal illumination of the retina.



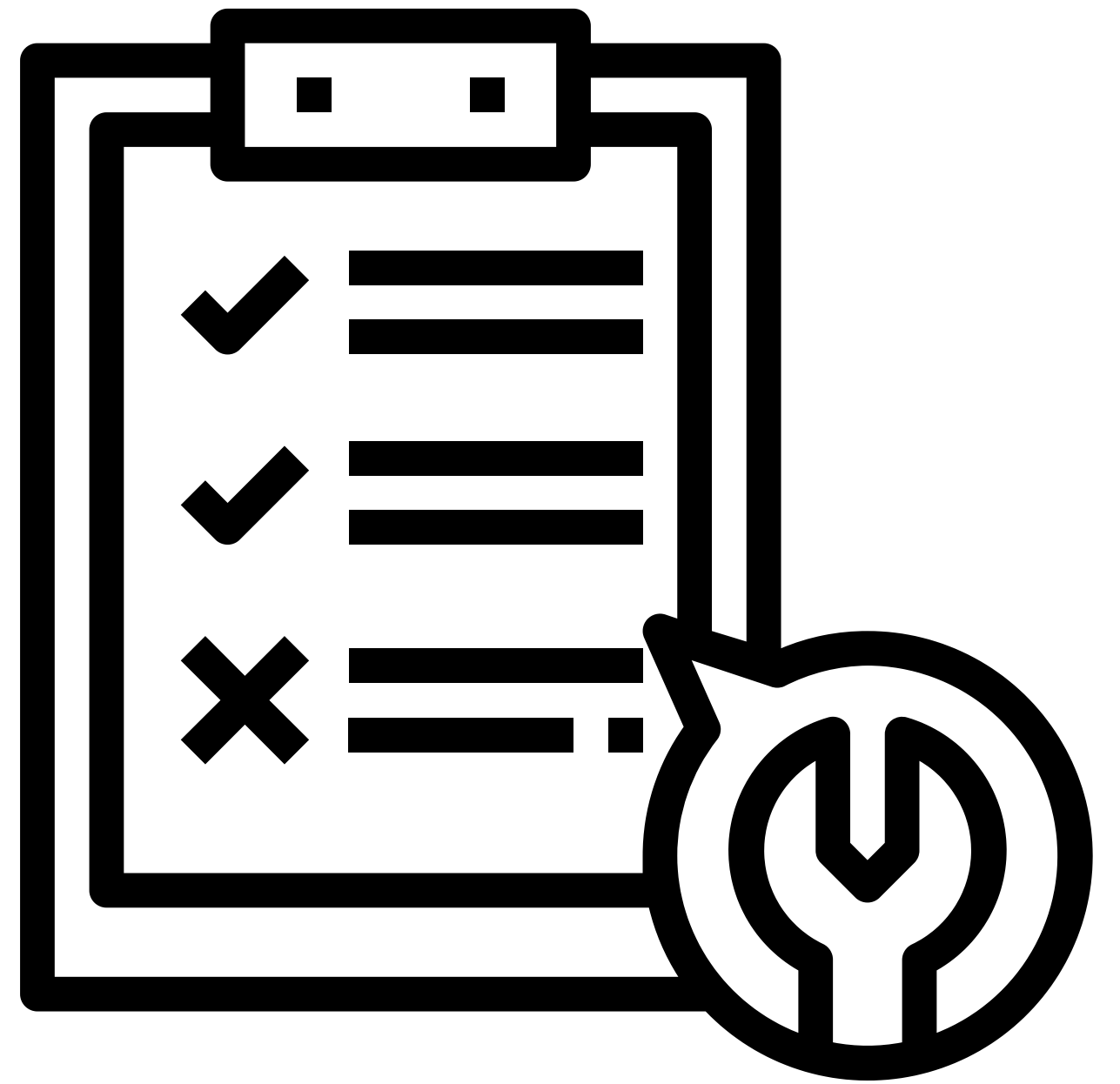
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Technical specifications

Phase One

The most important criteria for great retina illumination are diameter of light fiber - as thin as possible chandelier - and high light flux exiting the light fiber to illuminate retina with as much as possible light.

The relevant specs are listed on next slide.



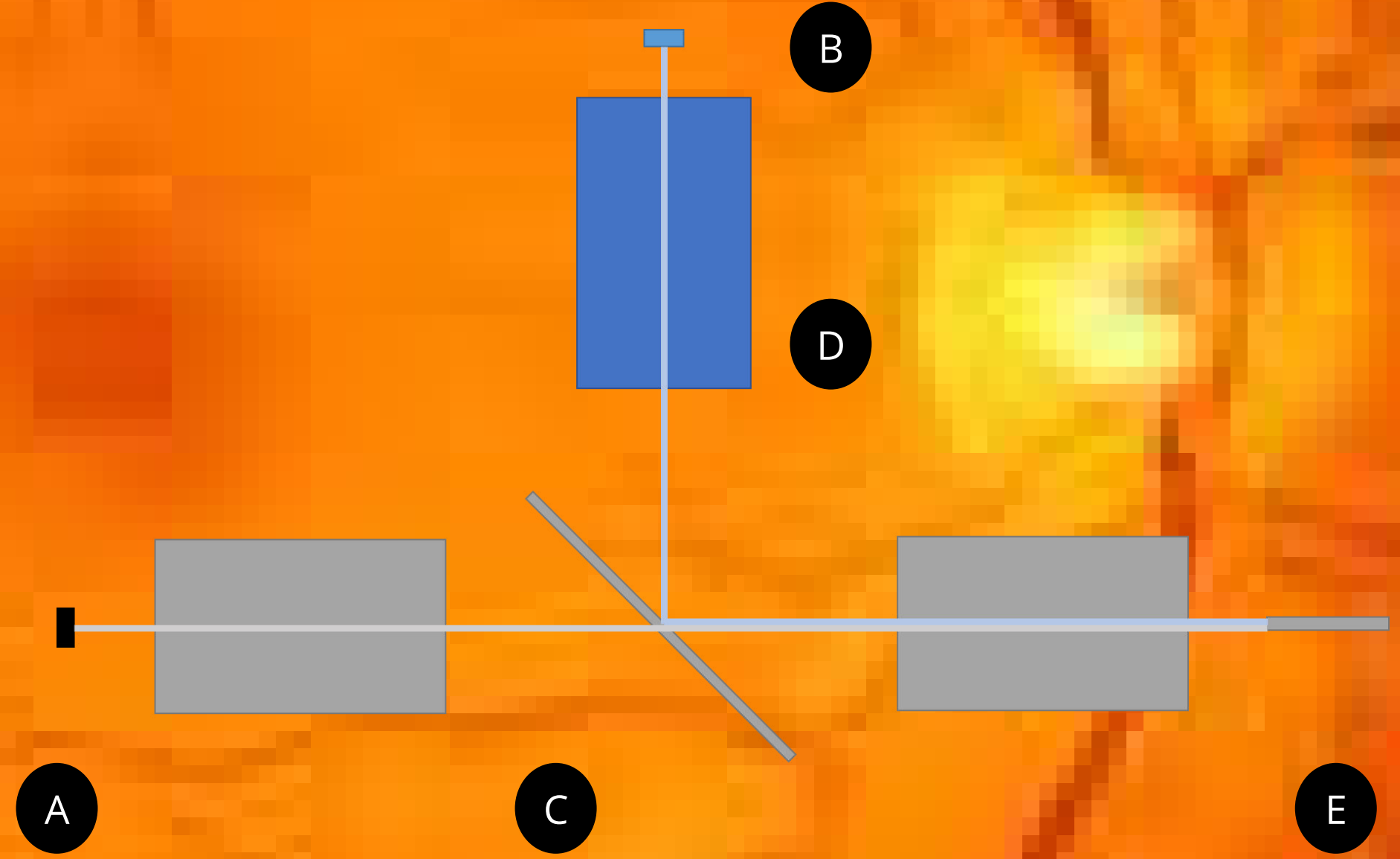
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No.	System	Requirement		Requirement	
		Property	Value	Property	Value
1	Light source	Light emission	High(est) power	Light flux	450 - 800 lm
2		Color temperature	Cold color temperature		
3	Path of light transmission	Color shading	None	Chromatical aberration	Achromatic corr VIS
4		# of light sources	2 max	Color of light	White, colored
5		# of optical components	12 max	Optics concept	Glass lenses, filters
6		Low illuminance difference center - edge		Illuminance distribution	Homogeneous, 90%
7	Light fiber	Instrument	20 - 27 Gauge	Diameter	0.2 mm
8		Light flux through fiber	>10 lumens		

Effective realization

Phase Two

- A White Light LED
- B Color Light LED
- C White Light Beam Path
- D Color Light Beam Path
- E Light Fiber (Chandelier)



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New standard at surgery in the eye

With this endoillumination new experiences will be provided to the surgeons during posterior eye surgery.



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A close-up photograph of two hands shaking in a firm grip. The hand on the left is darker-skinned and wearing a dark blue suit jacket. The hand on the right is lighter-skinned and wearing a light-colored suit jacket. The background is a soft, out-of-focus blue.

Partnership

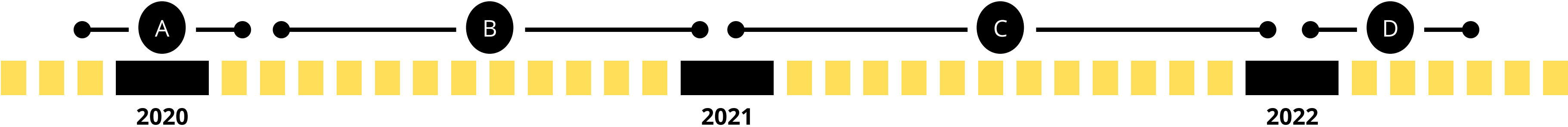
Potentials identified and cleverly used

Project analysis

With ambition and will to innovate medical applications and to provide highest performance for doctor's daily business are the goals of both our partner and ourselves.

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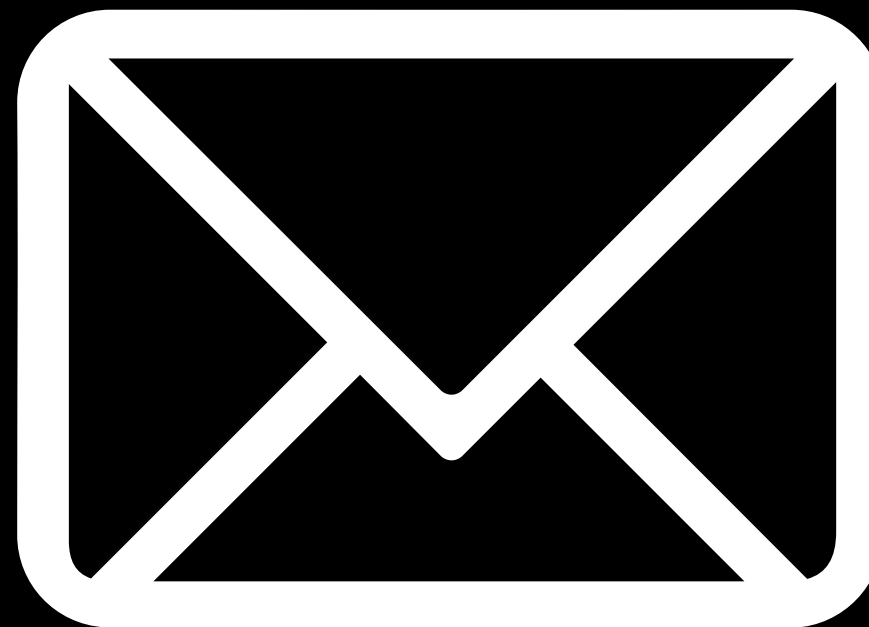
Timeline



- A Requirements Acceptance
- B Feasibility & Risk Acceptance
- C Design Acceptance
- D Prototype Acceptance

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**Get in touch with us to create
your perfect chandelier for your
retina illumination.**



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