Jake,

I think I have everything listed below. The 2 images attached are what I am assuming for the fiber bundle configuration (each bundle haveing 12 illumination fibers and 1 return fiber). In the images, the dimes represent the 2 each spectralon and alumina bundles. The rest are the skin bundles.

Ok ... parts list:

LDA

12 1x11 LD arrays

each 1x11 array has 1 substrate (500umH x 11000umW x 10000um D), gold coated on top (coating <200nm thick)

each LD on the 1X11 array is 250umH x 900umW x 5000um D

each 1x11 array stacked on top of the other to make a cube 9000umT x 11000umL x 10000umD

Collimating lens array

The LD pitch is 750umH x 1100umW. Create a 5mm sphere. Trim the top and bottom until its 750um tall and the sides until

its 1100um Wide. Make an 12Hx11W array of the trimmed spheres to make a "fly eye" lens array 5mmD

VBG Array

Make a rectangular cube 750umH x 1100umW x 5000umD

Make an array of these cubes 12H x 11W

Focusing lens array

Use the collimating lens array

Beam splitter

45 degree from normal of LDA face. Closer to the array means the detector can be further away from the splitter.

No other lenses are needed

Fiber bundles

Each bundle is a "12 around 1" bundle of 200um core/230um cladding fibers

19 bundles total, 2 for Spectralon, 2 for Alumina, 15 for Skin

19 x 12 = 228 fibers to be bundled at the focus of the array

15 return fibers terminating in front of the skin signal detector

2 return fibers terminating in front of the Spectralon signal detector

2 return fibers terminating in front of the Alumina signal detector

Detectors

4 detectors total, assume TO-5 can for the detector size

LDA reference detector placed at the LDA focus off of the reflected side of the beam splitter

Skin signal, Spectralon signal and Alumina detectors placed along side the LDA detector

Detector Reference LED

1 TO-5 sized LED facing the 4 detectors so the LED emission can reach each detector

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Jeremy Grata, President CEO

Artemis Biomedical

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