

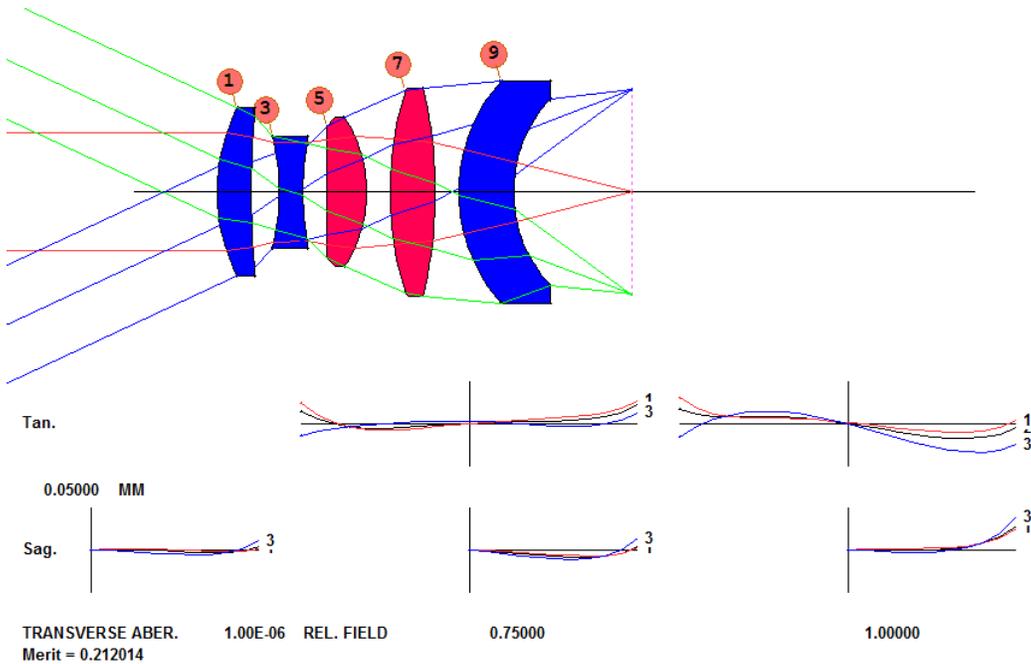
We run this, and in a minute we see the best lens it found, shown below. We optimize the lens some more, using the MACro that DSEARCH created for us. The image is pretty good, at least at a temperature of 20 degrees C.

Now we have to check the thermal characteristics. In the WorkSheet™ (WS), declare the housing to be aluminum 6061, as we did above. Then delete the thickness solve, so the lens won't automatically get refocused as the temperature changes. In WS, type **NTOP** to remove the solve. (The shadowed lenses will automatically remove the curvature solve.)

Now prepare another MACro to initiate thermal shadowing of this lens.

```
THERM
ATS 50 2
ATS 100 3
END
```

Run this, and the program puts a copy of the lens in ACON 2, recalculated for 50 degrees, and in ACON 3 at 100 degrees.



Now the critical test: Click the button for ACON 2, and ... nothing changes! The rayfan curves look almost identical to those in ACON 1. How about ACON 3, at 100 degrees? Again, almost identical!

Our lens is satisfactorily athermal.

What if it had not been so good? Well, we would then correct the image in all three ACONs in the optimization file. That should tweak up any remaining problems.

And we didn't even need the second pair of glasses we found. What happens if we use those instead of the first pair? Try it and see!

This lesson shows how designing an achrotherm lens is not difficult, using the tools in SYNOPSIS™.