fication of the receiver, this limit can be considerably decreased.

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Bok, Bart J. and Uco van Wijk. Photo-electric colors of B stars in five regions of the southern Milky Way.

Color indices and color excesses have been determined for 106 B stars in two fields in Sagittarius-Scorpius and three fields in Centaurus, Carina and Vela. The B stars in the first two fields are seen projected against the regions of the galactic center and surroundings. The other three fields are in the Carina sector of the Milky Way. The first is S.A. 193, half way between the η Carinae nebula and the Southern Cross. The second is the region surrounding the Algol variable GL Carinae, for which star van Wijk has completed the photo-electric observations for the light curve. The third field is in Vela toward the edge of the Carina concentration of B stars. The following results have been obtained:

1. For the direction of the large Sagittarius Cloud and immediate surroundings, the derived total absorption amounts to approximately 1.3 mag. at 1200 parsecs and 1.7 mag. at 2000 to 2500 parsecs. This means that two-thirds of the total absorption estimated by Baade between our sun and the galactic center occurs within 2500 parsecs of the sun, leaving the remaining 7000 parsecs to the center relatively transparent.
2. Some very reddened stars are found within 2° or 3° of the direction toward the galactic center, one of which, HD 316332, has a derived total photographic absorption of 6.7 mags. at a probable distance of 200 parsecs.
3. The dark nebulae that affect the region of the galactic center show considerable spread in distance, with derived distances ranging from 200 parsecs to 800 parsecs and more.
4. The obscuration thins out rapidly from the center toward southern galactic latitudes with some highly transparent regions found near galactic latitude -5° .
5. The field near S.A. 193 shows the least reddening of all, with total photographic absorption of the order of 0.5 mag. at 1000 parsecs and perhaps as high as 0.8 mag. at 1300 parsecs. The agreement with much earlier work of the Gaposchkins and of Bok and Wright is quite good.
6. The field near GL Carinae shows slightly

more reddening than S.A. 193, with maximum total photographic absorption 1.0 mag. indicated at 1500 parsecs.

7. The stars in the Vela field fall into two groups, with those north of the galactic equator indicating an excess of 1.5 mag. in total photographic absorption over those directly south of the galactic equator. For the southernmost stars the derived total photographic absorption amounts to 0.9 mag. at 1800 parsecs. The observed "edge" of the Carina concentration of B stars is apparently real and not caused by gradually thickening local obscuration.

Work is still in progress on a sixth field, that directly surrounding the η Carinae nebula.

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Carroll, Philip, Richard McCrosky, Robert Wells and Fred L. Whipple. Film molding for the Baker super-Schmidt meteor cameras.

The optical design of the super-Schmidt meteor camera specifies that the focal surface shall be a sphere with radius of curvature of 8.0 inches. The chordal diameter required is $7\frac{3}{8}$ inches and the focal surface must be maintained with a precision of approximately 0.0005 inch. Photographic emulsions coated on convex glass bases would be difficult to manufacture and inordinately expensive. We decided, therefore, to utilize standard flat acetate film coated with the appropriate emulsion and to mold this film to the required specifications. Changing radically a procedure developed by the Eastman Kodak Company Research Laboratories, we set up a film-molding equipment in which a rubber (or silicone) diaphragm is heated by a radiant heater within a water-cooled tank; under the action of compressed air this diaphragm presses the flat film into a concave spherical polished mold of the required dimensions. The complete cycle of heating the diaphragm, compressing the film into the mold, cooling the diaphragm by a flow of cool air, permitting the emulsion base to set and cutting out the spherical surface from the 10 $\times$ 10-inch rectangular film requires about 2 minutes. Pneumatic presses are used both for the operation of supporting the film in the molding equipment and for the "biscuit cutter."

Although the tolerances in the heating cycle are small, we find it possible to mold standard flat film-based emulsions to specifications without introducing a detectable effect either in the