

Copy of a printed image referenced as "Circular aperture"

Contributors

Fuller, Watson, 1935-

Publication/Creation

November 1963

Persistent URL

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... of the rings into two different sets, of which one falls outside of the geometrical shadow the other falls within the shadow.

Recently Hufford and Davis* have applied the Lommel theory to apertures subtending relatively large numbers of zones. For this they had to add the existing tables of Bessel's functions. They checked the results by photographing the corresponding patterns. Figure 67 is an example of

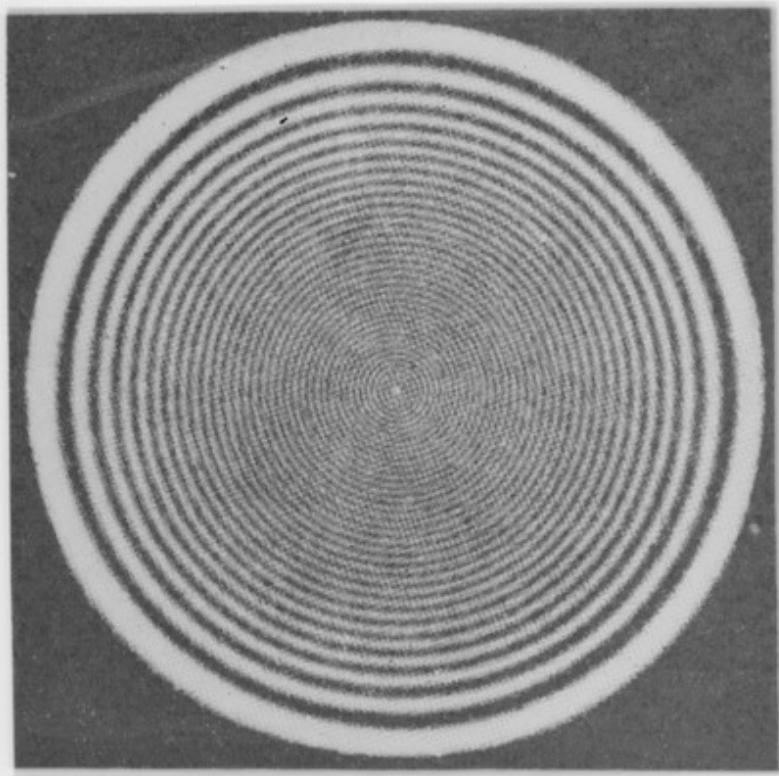


FIG. 67—Circular aperture subtending numerous zones (Hufford and Davis)

photographs obtained by them. It is to be noted that the central spot is very small in diameter when the aperture is large.

The diameter of the central spot may be roughly calculated by considering the zone system to be moved from the central position across the aperture for a distance equal to the width of what is originally the outermost zone. This operation obstructs approximately half of the outermost zone and allows half of the next zone beyond to pass. Since zones of high number are narrower than those of low number, the diameter of the cen-