sprocket and this recommendation had been in turn passed on to ASA Sectional Committee Z22.

Particularly in this last instance does the value of standardization become apparent. Potential saving in decreased film wear through adoption of this standard has more than justified the work of this committee, and we hope is typical of the engineering service which can now be supplied to the industry as a result of the recent central office expansion. A most important step in this direction is the acquisition of our full-time Engineering Secretary, Boyce Nemec, who can apply the needle when required to keep our projects on the move. Certainly we could not ask for better technical representation of the industry than that now provided on our present engineering committees. Under John Maurer's able direction, as Engineering Vice-President, and the application of Boyce's needle, we can expect real progress in the months to come.

REPORT OF THE COMMITTEE ON STUDIO LIGHTING*

C. W. HANDLEY**

Previous papers and reports have catalogued and described motion picture studio lighting equipment. The purpose of this report is to show the light output at various beam divergences of *some* of the popular types of equipment and to give an indication of the light levels used by *some* directors of photography. This information should give the reader a basis for general conclusions on the question of how much light is used.

Practically all of the lighting equipment used around the tops of sets on parallels and much of the floor lighting is accomplished by means of spotlamp units equipped with Fresnel-type lenses. These units are controlled as to spot diameter by moving the light source toward or away from the lens and are reduced in intensity at a given spot diameter by the use of frosted gelatin diffusers placed in front of

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* Presented May 10, 1946, at the Technical Conference in New York.

** Chairman.

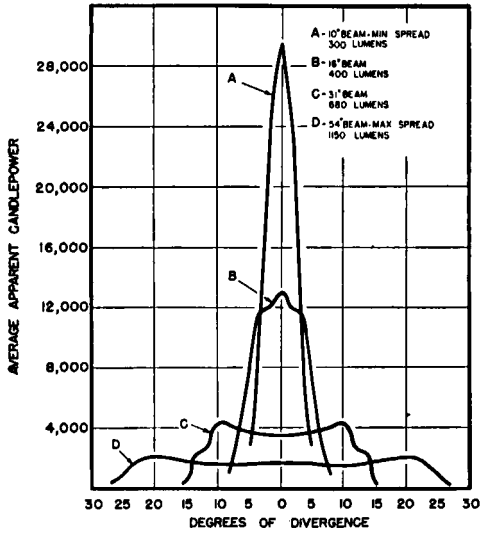

FIG. 1. Candlepower distribution from a Mole-Richardson "midget" incandescent spot type *404*, with a 200-w, *T-10* bulb d-c bayonet base lamp.

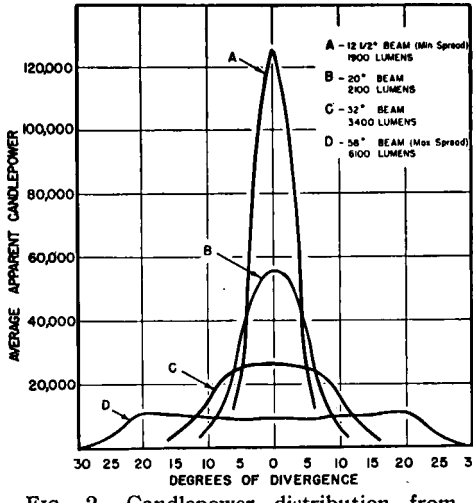

FIG. 2. Candlepower distribution from a Mole-Richardson "baby" solar spot, type *406* with a 750-w, *T-24* bulb medium bipost base *M.P.* type lamp.

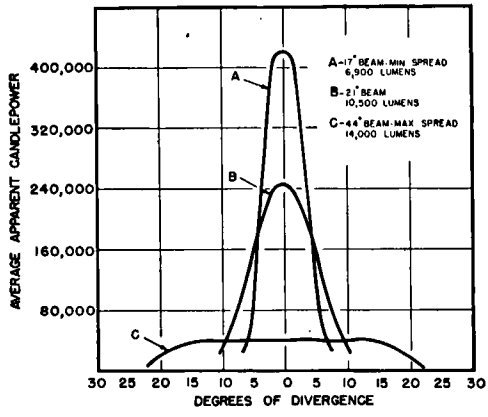

FIG. 3. Candlepower distribution from a Mole-Richardson "junior" solarspot type *410* with a 2000-w, *G-48* bulb mogul bipost base, *M.P.* type lamp.

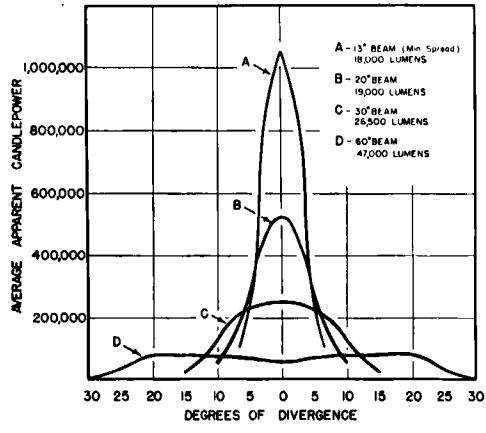

FIG. 4. Candlepower distribution from a Mole-Richardson "senior" solar spot type *414*, with a 5000-w, *G-64* bulb mogul bipost base lamp.

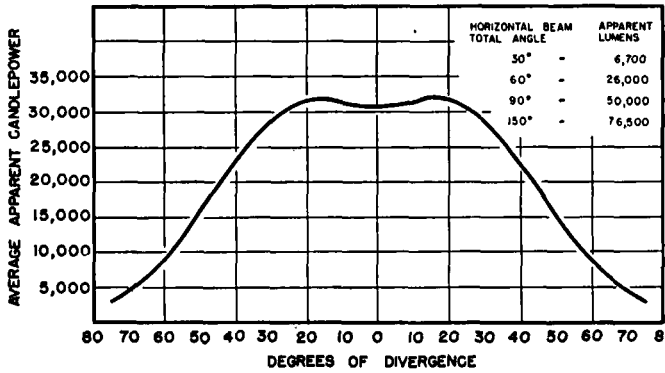

FIG. 5. Candlepower distribution from a Mole-Richardson "duarc" type *40* operating from a 120-v, d-c line, arc current 41 amp.

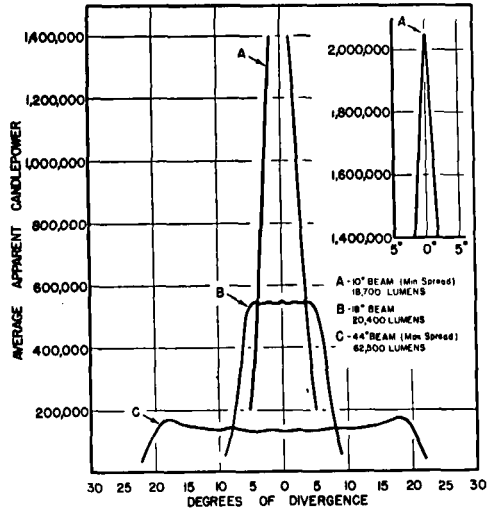

FIG. 6. Candlepower distribution from a Mole-Richardson high intensity arc spot, type *90* with 115-v, d-c arc operating at 110 amp, 60 arc v.

the lens. Figs. 1 to 6 show the average apparent candlepower and lumens output of a number of the spotlamp type units.

Fig. 7 shows the average apparent candlepower and lumens output at various angles of a carbon arc type broadside lamp which does not have adjustable beam spread and is used for general floodlighting.

For black-and-white cinematography, tungsten filament lamps are usually the main light sources, particularly on small sets. Carbon

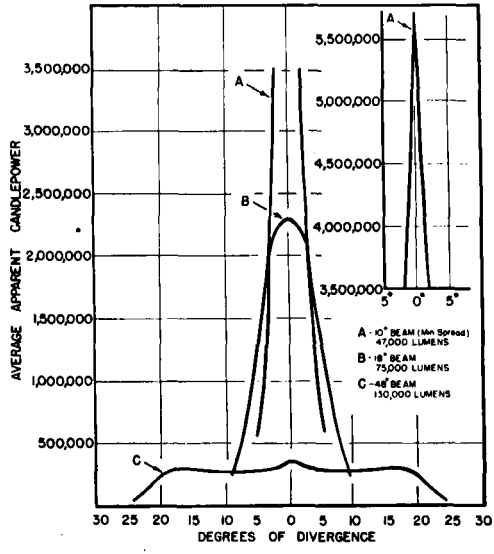

FIG. 7. Candlepower distribution from a Mole-Richardson high intensity arc spot, type *170* with 115-v, d-c arc operating at 140 to 145 amp, 60 to 70 arc v.

arc lamps are used for "streak lighting," shadow effects, and on larger sets where it is necessary to project light for considerable distances.

"Key-light" levels on black-and-white sets vary from 50 to as high as 400 ft-c.

Professional color cinematography is balanced to sunlight, therefore, carbon arc lamps are usually the main light sources. The flood-type carbon arc lamps are used without filters and the high-intensity rotating positive-carbon type spotlamps are equipped with light straw-colored gelatin filters known as "*Y-1*". Tungsten filament

lamps, fitted with blue filters for sunlight balance, are used on color where fill light is indicated on small sets and for softening the front illumination in closeups. The key-light levels in color cinematography vary from 250 to as high as 900 ft-c.

REPORT OF THE COMMITTEE ON TELEVISION PROJECTION PRACTICE*

P. J. LARSEN**

About a year ago this Committee was organized as a subcommittee of the Society's Theater Engineering Committee. At that time, its scope as outlined included specification, design, construction, installation, maintenance, and method of use of equipment for projection of television pictures in the theater. This entails recommendations for arrangement of television equipment in the theater or projection room, including definite plans and layouts necessary for such equipment including its location and electrical and mechanical association with the normal film projection equipment. This scope, therefore, also includes the dimensions of the projected picture, color spectrum of light source, and the characteristics of the reflective or translucent screen that may be used for viewing the theater television performances.

As noted in the above, the scope includes the specifications, design, construction, installation, maintenance, and method of use of equipment. This means that all matters dealing with theater television transmitters, relays from studio to transmitters and from city to city, receivers, projectors, and all the associated gear fall within the scope of the Committee.

The Committee is made up of members of the Society representing manufacturers of television equipment, theater circuits, motion picture producers and distributors, including newsreel companies, television broadcasting companies, architects, theater equipment dealers, and other interested members of the Society.

At its first meeting held on June 1, 1945, it was decided that four

* Presented May 10, 1946, at the Technical Conference in New York.

** Chairman.