

Applying Wide-Range Principles to High-Power Lamps

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The industry's first wide-range lighting unit was the Mole-Richardson "Junior Solarspot," which was introduced early in 1935. In it, for the first time, the power of a reflecting Sunspot and the wide range and ideal beam of a condenser-spotlight were combined in a single unit. For the first time, a motion picture lighting unit was engineered specifically to meet the problems of the camera, without paying tribute to traditions established in searchlighting and theatrical spotlighting practice. The success of the "Junior Solarspot" since its introduction is almost too well known to

repeat, for it has received an enthusiastic welcome in every studio in the industry, and in many quarters is supplanting the older "eighteens" as the standard 2,000-watt unit for all-around service.

The success of this 2,000-watt unit brings with it a demand for a similar wide-range lamp of higher power. This demand is now answered by the introduction of the "Senior Solarspot," a 5,000-watt companion to the "Junior," based on the same optical principles, and bearing the same relation to the 24-inch Sunspot that its running-mate does to the "eighteen."

Briefly, the new lamp (which is officially termed MR Type 214) is a 5,000-watt wide-range spotlight, using a G-64 C-13 (clear) bi-post Mazda globe. The optical system consists of a "Morinc" lens 14 inches in diameter, in combination with a spherical mirror placed behind the globe to utilize the rearward emanations. The lens is made of special, heat-resisting

glass, and due to its large diameter and short focal length, works at a speed of approximately $f:0.7$. This lens, like that of the smaller unit, is the result of many months of research carried on jointly by Mole-Richardson engineers and optical experts from the firm responsible for the 200-inch eye of the new Palomar Mountain telescope.

In its physical layout, the "Senior Solarspot" resembles its companion, the "Junior." Due to the optical principles used, it is somewhat smaller than previous 5-KW units. The housing is an aluminum-alloy casting, with ample provision for ventilation. The controls are conveniently grouped at the rear and right-hand side; the main switch is at the operator's right hand, with the tilt locking-handle carried through the casing to a convenient location at the rear of the barrel, and the flooding crank in its accustomed place below. Access to the globe is through a large door at the back of the lamphouse.

The general performance of the lamp is similar to that of the "Junior Solarspot." The beam may be concentrated to a tight spot-beam of 10 degrees or less, and flooded out to a spread of over 44 degrees. The intensity of the concentrated beam compares favorably with that of conventional 5-KW units, while the overall intensity at the wider spreads is definitely superior. While in reflector-type spotlights there is at the wider beam-spreads a variation in intensity between the edges and the center of the beam which may be as great as 85 per cent, with the dark center growing more and more objectionable as the beam is flooded, in the "Senior Solarspot," even at its widest spread (nearly double the maximum usable flood of a Sunspot), the variation between center and edges is scarcely visible.

Like its smaller companion, the lamp may be fitted with an Iris-diaphragm which permits many new effects, including changing the intensity without altering the size of the spot, dimming effects without the use of dimmers or alteration of the color of the light, etc. It is, in fact, a really modern lamp, engineered to meet the requirements of today's cinematography.



JUNIOR
(2000 Watt)



SOLAR SPOTS

The Perfect Photographic Light

MOLE-RICHARDSON, Inc.

941 No. Sycamore Ave., Hollywood, Calif.

Cable "Morinc"



SENIOR
(5000 Watt)