SELECTION OF CAMERA FILTERS FOR COLOR PHOTOGRAPHY

One of the problems facing the serious color photographer—whether he is a hobbyist or scientist trying to record accurately some physical phenomenon—is matching his color film o the light he is using to take the picture.

Color films are usually balanced for a particular kind of light, classified as "daylight," "flash," "3200 °K," or "photoflood." When a film is used in light with a different color palance, filters are used over the camera lens to bring the combination back into agreement.

This chart provides a quick and easy way to select the right filter for almost any combination of light source and color film. A straightedge laid across the three scales so that it connects he light source and the color film will cross the center line at a point corresponding to the proper filter. Notations consisting of a series of filter designations (e.g., 80b+82c+82a) nean that *all* these filters should be used at once for proper correction. When color correcting ilters are used, the exposure must be increased by the "filter factor" assigned by the filter nanufacturer.

The chart was prepared by C. S. McCamy of the NBS Photographic Research Section.

ANOTHER NBS PUBLICATION OF INTEREST TO PHOTOGRAPHERS

Method for Determining the Resolving Power of Lenses (NBS Circular 533) provides the photographer with two sets of charts by which the resolving power of a photographic lens may be numerically measured. The accompanying booklet gives a detailed description of the procedure and technique to be followed in order that comparable values may be obtained by different observers. Additional uses of these charts are also described, including the testing of goggle lenses for definition and prismatic power, and the testing of telescopes and binoculars for definition.

NBS Circular 533,* Method for Determining the Resolving Power of Photographic Lenses, by Washer and Gardner, \$1.75 (add one-fourth for foreign mailing).

*For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402 5 cents

GAS FILLED TUNGSTEN LAMP 40 woth ~ GAS FILLED TUNGSTEN LAMP 60 wott -GAS FILLED TUNGSTEN LAMP 100 watt-GAS FILLED TUNGSTEN LAMP 500 wott-GAS FILLED TUNGSTEN LAMP 1000wdtt-STUDIO LAMPS^a AMBER FLASHLAMP (EXCEPT 25C) SM FLASHLAMP SF FLASH, 25C FLASH "WARM WHITE" FLUORESCENT LAMP" FLOOD-FLASH LAMP CLEAR FOIL-FILLEO FLASHLAMP 8LUE PHOTOFLOOO (115-120v)0 BLUE FLASHLAMPS (EXCEPT M28)b HIGH-SPEED ELECTRONIC FLASHTUBES-"DAYL IGHT" FLUORESCENT LAMP^b HEAVILY OVERCAST SKY HAZY BLUE SKY-CLEAR BLUE SKY NEAR ZENITH PHOTOFLOODS ARC, SOLIO CARBON "COOL WHITE" FLUORESCENT LAMP^b ARC, WHITE-FLAME CARBOND AVERAGE NOON SUNLIGHT M2B FLASHLAMP MID-DAY SUN + SKY ON HORIZONTAL ARC, "SUNSHINE" CARBONS b-LIGHTLY OVERCAST SKY -PLANE LIGHT SOURCE CORRELATED TEMPERATURE "K - 25,000 3,000 2,950 13,000 2,760 3,300 3,400 3,500 3,800 3,750 4,500 4,800 5,500 2,790 2,860 3,200 5,000 6,260 6,500 7,500 6,000 7,000 000,6 81EF+81D-80C+82A-858+8IC-808+828 82C+828 8IEF + 8IC -858 + 81 -808+82-82C+82-18 + 58 81 EF + 81 808+82C+B2A-85C+8I 81A, UV15 80C+82-82C+82C -82C+82A-85C + 8IA-82C -- 91AD 858 + 8IA - 808 82A 858 ---8IC 85C 1 808+82C-81EF + 81A -808+82A BLUISH YELLOWISH FILTER 0 -018 8 1 818 80c ----828 -81EF 82 -85 CORRECTION 0 40 120 200 -120 80 160 -160 - 80 -40 - 200 BALANCE 240-280 400-320-360 — 120-200-160 -40 -80 | -DAYLIGHT TYPE FILMS -FOR CLEAR FOIL-FILLED FLASHLAMPS TYPE "A" FILMS TYPE "8" FILMS FOR 3400° K "PHOTO FLOOD" LAMPS FLASH TYPE FILMS FILM

b- Color temperature is only on approximate specification of these sources.

a- The correlated color temperature of these lamps increoses obout 11°K for each volt increose in opplied potentiol, in the neighborhood of 115v. As lamps are used, the correlated color temperature (ot o given voltoge) decreases, often from 50°K obove to 50°K below the roted value during the life of the lamp.

COLOR FILTER NOMOGRAPH