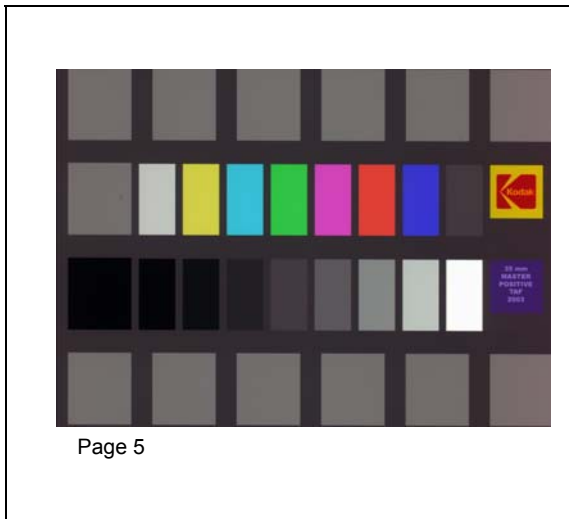


KODAK Telecine Tool Kit and Reference Manual

KODAK Telecine Analysis Film



**KODAK Telecine Exposure
Calibration Film**



**This publication is intended for inclusion with
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Table of Contents

KODAK Telecine Analysis Film (TAF)	5
Colorists Use TAF	5
TAF is available in the following formats:	5
Setup Procedures for TAF	7
Electronic Color Masking.....	7
KODAK Telecine Exposure Calibration Film (TEC).....	10
Using KODAK Telecine Exposure Calibration Film (TEC)	10
Shooting the Gray Card Plus.....	10
Colorist's Guide to KODAK Telecine Exposure Calibration Film (TEC).....	11
Design of TEC Film.....	11
Setting up KODAK Telecine Exposure Calibration Film.....	12
Evaluating Film Exposures	12
KODAK Gray Card Plus	13
For the Cinematographer.....	13
Shooting the KODAK Gray Card Plus	14
Using the KODAK Gray Card Plus for Transfer Grading and Film Color Timing	16
Special Lighting and Exposure Control	18
Using KODAK Gray Card Plus for Exposure Evaluation.....	19
Using Filters and the KODAK Gray Card Plus	19
For the Colorist	20
Using the KODAK Gray Card Plus as a Grading Reference.....	20
Using the KODAK Gray Card Plus as a Reference to Determine Transfer Points	20
For the Film Timer.....	21
Using the KODAK Gray Card Plus to Time Special Scenes	21
KODAK Telecine Exposure Calibration Film Conversion Tables	22

KODAK Telecine Analysis Film (TAF)

Soon after it was introduced in 1984, KODAK Telecine Analysis Film—TAF—became the industry standard for setting up and analyzing telecines.

Colorists recognize the value of TAF to help achieve optimum transfer quality.

Colorists Use TAF

- to set up the telecine to a useful starting point for film reproduction. The colorist can then go on to optimize the Telecine for the client film.
- to provide this setup capability for blacks, whites, grays and saturated colors.

TAF is available in the following formats:

35 mm

- Camera Negative—for use with all KODAK VISION, VISION2 and EXR Color Negative Films (identified as *35 mm NEGATIVE TAF* on the TAF film frame)
- Master Positive—for use with KODAK VISION Color Intermediate Film 5242 when used as a master positive (identified as *35 mm MASTER POSITIVE TAF* on the TAF film frame)
- Teleprint—for use with KODAK VISION Color Teleprint Film 2395 (identified as *35 mm TELEPRINT TAF* on the TAF film frame)
- EKTACHROME—for use KODAK EKTACHROME 100D Color Reversal Film 5285 identified as *35 mm EKTACHROME TAF* on the TAF film frame

16 mm (single perf, suitable for standard and super-16 mm gates)

- Camera Negative – for use with all KODAK VISION, VISION2 and EXR Color Negative Films (identified as *16 mm Negative TAF* on the TAF film frame)
- Master Positive – for use with KODAK VISION Color Intermediate Film 7242 when used as a master positive (identified as *35 mm Master Positive TAF* on the TAF film frame)
- Teleprint – for use with KODAK VISION Color Teleprint Film 2395 (identified as *35 mm Teleprint TAF* on the TAF film frame)

Roll contents

Camera Negative: The camera negative rolls contain approximately 12 feet of TAF plus approximately 2 feet of TEC There is also approximately 12 feet of leader (may be spliced on leader, or it may be blank film) at both the head and tail ends.

Teleprint, master positive and EKTACHROME Film: Each roll contains approximately 12 feet of TAF. In addition, there is approximately 12 feet of leader (may be spliced on leader, or it may be blank film) at both the head and tail ends.

Each TAF frame contains:

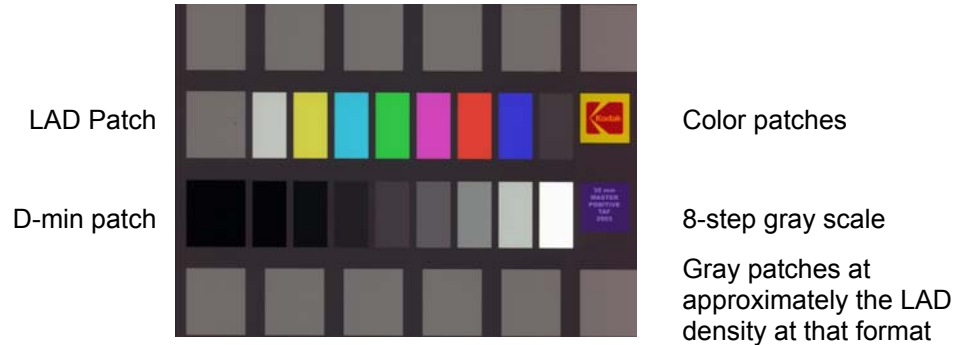
- Horizontal 8-color bar test pattern
- Horizontal 8-step gray scale + d-min.
- 13 surrounding gray patches

TAF Use

The main purpose of TAF is to provide a good telecine setup starting point for colorists to grade client film. The process can easily be customized for your particular needs.

In the past, engineers in telecine facilities have used TAF to align and/or verify proper set up of the telecine operation at a transfer facility. It is now most common for telecines themselves to provide test signals that are used for this purpose.

Sample TAF Frame



TAF 8-step Gray Scale

TAF 8-Step Gray Scale

	Film Black				Film White			
	■	■	■	■	■	■	■	■
Step	1	2	3	4	5	6	7	8
Relative Log	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1
Exposure Values	<i>Exposure range of 125 to 1 (or seven camera stops)</i>							

Use the gray scale to adjust telecine controls for proper video reproduction of the TAF film. A waveform monitor with single-line capabilities is helpful while making these adjustments. Use the entire gray scale as a reference for gray scale tracking and subcarrier balance.

The square area to the left of the first gray scale patch represents film d-min in the negative TAF, printed-thru d-min for the Master Positive and Teleprint TAFs, and film d-max for the EKTACHROME TAF.

TAF Color Bars

TAF Color Bar

TAF Saturated Color Bar Test Pattern

	1	2	3	4	5	6	7	8
Saturated Colors	■	■	■	■	■	■	■	■
	Lt. Gray	Yellow	Cyan	Green	Magenta	Red	Blue	Dk. Gray

TAF color bars are not intended to match electronically originated

TAF color bars are not intended to match electronically generated color bars. Rather, they provide a method to obtain a repeatable telecine setup. Once you obtain a setup that generally provides pleasing results, the position of the color bars on a vectorscope can be noted and used as a reference for future setups.

Figures 7 – 8 show vectorscope images for a telecine that was set up in a manner that produced images that were deemed to be pleasing, and may be used as a starting point.

Setup Procedures for TAF

1. Clear all secondary color correction and image adjustments.
2. Set log masking to manufacturer's recommended position for the film type being used.
3. Using telecine primary color correction controls only and the gray scales patches on the TAF, adjust lift, gain and gamma so that all three color channels output the values shown below.

For all KODAK Negative Films				
TAF Gray Scale	Composite (with setup)		Component (without setup)	
	Voltage	IRE	Voltage	% Video
Step 1 (film black)	0.054	7.5	0.000	0
Step 8 (film white)	0.615	86	0.595	85
LAD patch	0.351	49	0.315	45

For Master Positive, Teleprint and EKTACHROME Films				
TAF Gray Scale	Composite (with setup)		Component (without setup)	
	Voltage	IRE	Voltage	% Video
Step 1 (film black)	0.054	7.5	0.000	0
Step 8 (film white)	0.714	100	0.700	100
LAD patch	0.351	49	0.315	45

Note: Lift, gain, and gamma adjustment are interactive. Repeat as necessary to achieve the recommended values. Typical waveforms are shown in Figures 8 and 10 for color grading.

These values provide a useful starting point for grading correctly exposed client film. However, secondary color correction and contrast adjustments may be needed to optimize the transfer.

Also, if the film black, film white, and gamma controls (or lift, gain and gamma for a CRT telecine) are used to achieve the above settings, the telecine controls will be in a position that allows a range of adjustment for both over and underexposed film.

Electronic Color Masking

It is generally recommended to use the color masking settings provided by the telecine manufacturer for different types of motion picture film. However, you can use TAF to check color masking and make adjustments if necessary.

Electronic masking is used to recalculate the red, green and blue video signals. This helps to compensate for the mismatch and crosstalk between the telecine sensors and the film dyes.

You can use TAF as an empirical method of determining log masking values.

Figures

Typical RGB component waveform for TAF Grayscale for negative film.

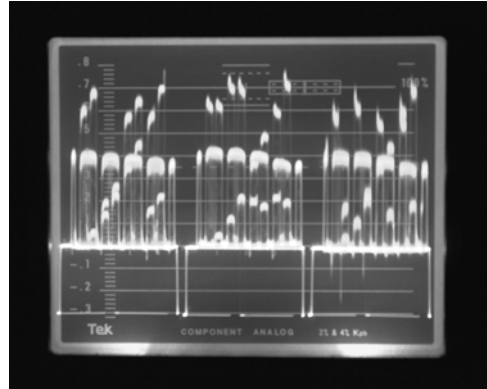


Figure 1

Typical RGB component waveform for TAF Grayscale for Master Positive film. Teleprint response is similar.

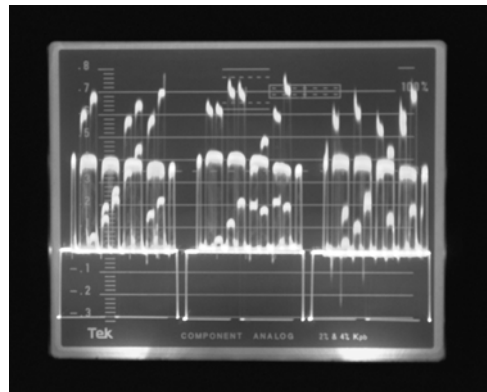


Figure 2

Typical NTSC composite waveform for TAF Grayscale for negative film.

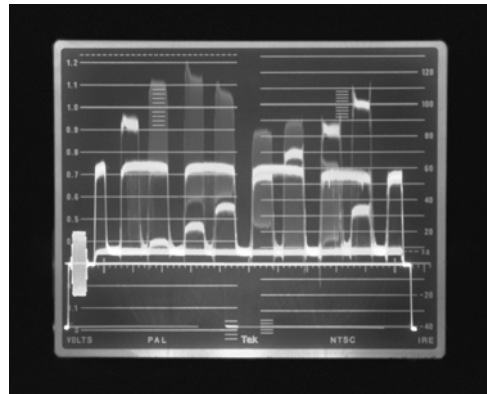


Figure 3

Typical NTSC composite waveform for TAF Grayscale for Master Positive film. Teleprint response is similar.

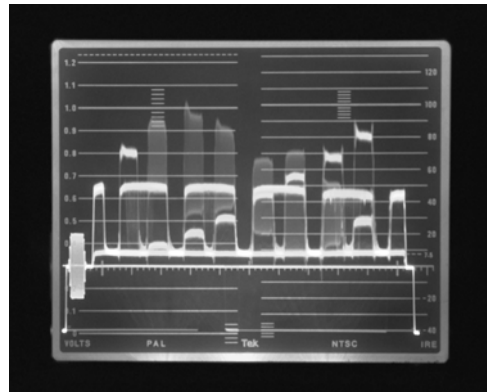


Figure 4

Typical PAL composite waveform for TAF Grayscale for negative film.

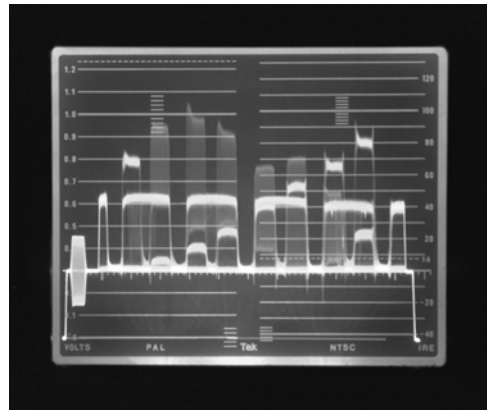


Figure 5

Typical PAL composite waveform for TAF Grayscale for Master Positive film. Teleprint response is similar.

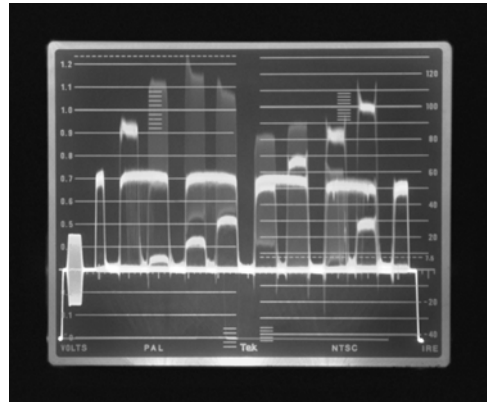


Figure 6

Typical NTSC vectorscope display of the TAF color bars.



Figure 7

Typical PAL vectorscope display of the TAF color bars.

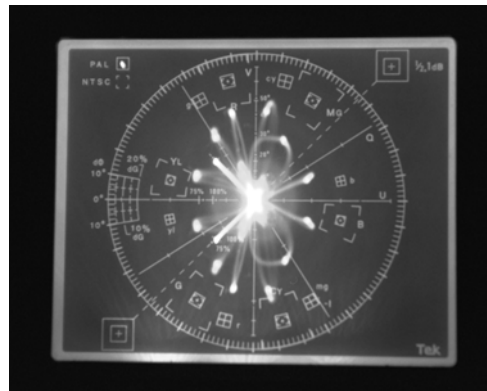


Figure 8

KODAK Telecine Exposure Calibration Film (TEC)

Video rushes are starting to replace film dailies due to the increased use of computer-based editing systems. Processed negative is sent directly to the telecine transfer facility. Depending on postproduction needs, video dailies may not provide accurate feedback for cinematographers. This is most likely to occur when the film has been lit for theatrical presentation with a wide range of scene brightness.

Without film dailies, there is no laboratory report with its list of printing lights to tell the cinematographer that exposures are satisfactory before shooting the next setup.

KODAK Telecine Exposure Calibration Film (TEC) enables the colorist to provide the cinematographer with transfer points similar to the printing lights traditionally provided by laboratories. By aligning the tonal scale of the telecine to TEC film, a standard exposure calibration can be established for every telecine worldwide. Values should be consistent whenever the film is transferred. Dialogue with the colorist can be based on objective grading rather than vague comments like, "Your negative looks a little dark."

There is one TEC film to calibrate telecines for KODAK VISION, KODAK VISION2, and EASTMAN EXR Color Negative Films. It is available in 35 mm academy and S16 mm formats.

Using KODAK Telecine Exposure Calibration Film (TEC)

The system is designed to be used with the KODAK Gray Card Plus, which provides the exposure reference for the scene. The Colorist reads the red, green, and blue voltages (IRE values) from the gray portion of the card. Based on the TEC film standard, the readings are converted to transfer points using either the conversion tables provided or automatic reading devices.* Normal negative transfers at 25-25-25, so exposures can be assessed in terms of transfer points in much the same way as printer points from a film lab are read.

Shooting the Gray Card Plus

KODAK Gray Card Plus is the standard exposure reference to be used with TEC Film. Shooting the card correctly is the single most important requirement for accurate exposure evaluation. Exposure evaluation (transfer points) will be erroneous unless the card reflects a true representation of the lighting.

Please refer to the users guide's exposure instructions for KODAK Gray Card Plus before shooting.

* Equipment manufactures such as Aaton, Accorn, and Rank Cintel have developed electronic systems for reading film densities on telecine. Based on KODAK Telecine Exposure Calibration Film, some of these systems can also provide transfer point reports automatically reading the KODAK Gray Card Plus. Using an internal database for each KODAK Film, manual lookup and data entry are eliminated.

Colorist's Guide to KODAK Telecine Exposure Calibration Film (TEC)

TEC film is used as a telecine calibration standard for evaluating color negative film exposures. Given its precise gray, black, and white densities, TEC film provides a standard for determining transfer points similar to printer points from a film lab. No matter where the film is transferred, transfer houses worldwide can use TEC film to provide cinematographers with consistent exposure information,

Although TEC film can also be used as an initial setup tool for grading, KODAK Telecine Analysis Film (TAF) is a better choice – TAF film is a more comprehensive setup film,

Neither of these films is a replacement for the colorist's visual skill in establishing the "look" of each scene to meet the intentions of the cinematographer. TEC film provides a basis for excellent dialogue between colorist and cinematographer at the video rushes stage.

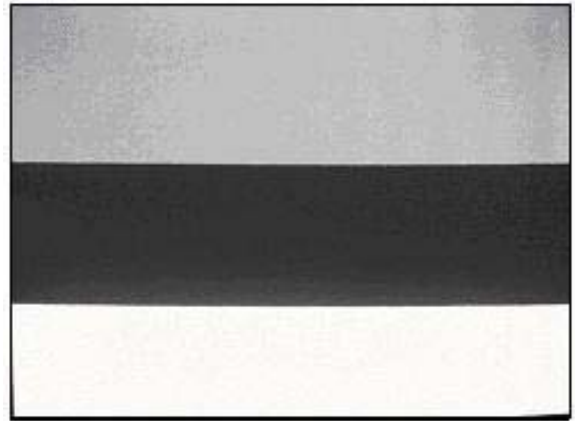


Figure 1

Design of TEC Film

TEC Film is a short strip of negative film uniformly exposed and processed by Kodak under tightly controlled conditions. Each frame is comprised of three horizontal density strips (Figure 1). By setting lift, gain, and gamma to the prescribed RGB voltages for each density, every telecine can be aligned to a common standard for exposure evaluation of KODAK Color Negative Films.

Shots of the KODAK Gray Card Plus included in the client's film provide an exposure reference to determine transfer points. The RGB voltages or IRE values are read from the gray portion of the card. Based on the TEC film standard, readings are converted to transfer points using either the conversion tables provided at the end of this manual or automatic reading devices. Normal negative transfers at 25-25-25, so exposures can be assessed in terms of transfer points in much the same way as printer points from a film lab are read.

When set to the prescribed voltages (IRE values), the three TEC film densities define the straight-line portion of the film curve characteristic within a telecine transfer. These three values have been carefully chosen to take maximum advantage of the latitude available in KODAK Film stocks. Specular reflections and deep blacks lie outside the range of reflectance defined by TEC film, but can be explored by the colorist using the wide range of controls available in the telecine.

Setting up KODAK Telecine Exposure Calibration Film

1. Center the controls using KODAK Telecine Analysis Film or other baseline reference.
2. Load the TEC film on the telecine, verifying that white leader is at the head of the roll and punch holes (35 mm only) are loaded toward the back of the telecine. Be sure the film is properly framed in the gate. (See Figure 1)
3. Using only the primary controls – lift and gamma – adjust these controls to achieve the component waveform monitor readings shown below. Secondary color correction and aperture correction should be switched off at this stage.

	RGB Voltage	RGB IRE
White Patch	0.50V	72
Gray Patch	0.25V	36
Black Patch	0.03V	4

4. Adjust the controls for equal RGB values on each of the three density strips. Since the controls interact, it may take several adjustments to achieve the precise readings. The same calibration applies to both 35 mm and 16 mm TEC films, but recalibration is required when changing formats.
5. Store the settings so they can be recalled later.
6. Unload the TEC film and return it to its original can to prevent fading. Store in a cool, dry place.
7. Calibrate telecine.
8. Store the settings so they can be recalled later.
9. Unload the TEC film and return it to its original can to prevent fading. Store in a cool, dry place.

Evaluating Film Exposures

1. Load the client's film and advance to the first scene showing the KODAK Gray Card Plus. Roll into the shot to make sure the lighting on the card doesn't change.
2. Recall the TEC Film settings that apply to the film you are evaluating. Without changing any controls or zooming in on the gray card, refer to the waveform monitor and read the RGB voltages from the gray portion of the card.

Note: If one of the direct-reading electronic systems is available, more accurate RGB values can be obtained.

3. Using the appropriate TEC Film conversion table or automatic reading system, record the corresponding transfer points for the dailies report.

For one-light transfers, minimal adjustments (color balance, contrast, and black level) may be needed for TEC Film settings in order to provide a reasonable grading reference for the entire roll. These values, however, may yield dailies with contrast lower than some clients prefer.

TEC Film is specifically designed as a telecine calibration standard for exposure evaluation and to provide transfer points.

KODAK Gray Card Plus

KODAK Gray Card Plus with black and white patches is used to:

- determine telecine transfer points
- provide exposure information for the cinematographer
- help the colorist and film color timer preserve what the cinematographer created on film.

Features

- neutral gray center field, 18% reflectance
- black side patches, 3% reflectance
- white side patches, 90% reflectance
- available in two sizes: 9 x 12 inches, 18 x 24 inches
- durable matte

For the Cinematographer

Shoot the KODAK Gray Card Plus in each new lighting setup. KODAK Gray Card Plus should occupy a minimum 15% of the frame in all cases. The larger the card area, the easier it is for the Colorist to obtain the readings needed for exposure and grading reference.

For Transfer Grading and Film Color Timing

The card...

- provides a transfer and printing reference for normal lighting and normal exposure.
- serves as a guide to preserve special lighting and exposures.
- indicates corrections needed to improve color balance and exposure.
- establishes a starting point for scenes to be transferred or printed for special effects.

For Standard Exposure Evaluation

The card...

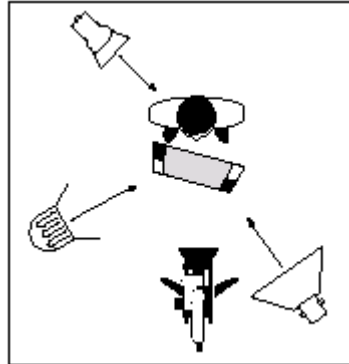
- provides a standard reference when used with KODAK Telecine Exposure Calibration (TEC) Film.
- enables the transfer facility to determine transfer points that are similar to printer points from a film lab

Shooting the KODAK Gray Card Plus

When the card is shot as part of the scene it should...

- be placed near the main subject to represent the general lighting.
 - occupy at least 15% of the frame.
 - provide an accurate reference for color exposure when graded to 18% neutral gray
1. Position the card so it receives the same light (intensity and color balance) as the main subject and occupies at least 15% of the frame. Zoom or move in, if necessary.
 2. Turn or tilt the card so it is evenly illuminated without shadows or flare. The color temperature of the light reflected from the card should match the scene.
 3. Determine normal exposure for the scene using an incident light meter or any method you prefer.
 4. Take a reflected spotmeter reading on the gray portion of the card from the camera position. If necessary, reposition the card or add supplemental light for a reading that agrees with the aperture you have chosen for normal exposure.
 5. Shoot the card and include some of the scene for practical reference.
 6. Repeat this procedure at the head of each film roll and every time there is a major lighting change.

Note: Shooting the card in the scene will not preserve special lighting or exposure. The colorist or timer should grade the card to 18% neutral, then use that setup as a baseline for final grading. To maintain special or altered lighting in the transfer or print, always shoot the card in the alternate position.



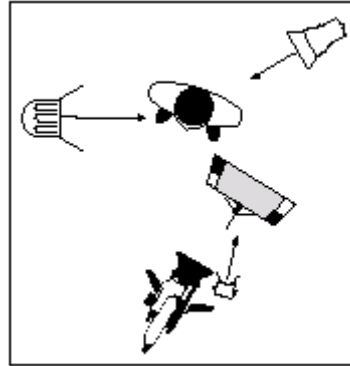
Shoot the card in this alternate position when...

- placing the card in the scene will not provide an accurate grading or exposure reference.
- the card cannot reflect the main light of the scene and occupy at least 15% of the frame.

1. Place the card on an easel or other support near the camera, and make sure the light on the card is even and flat. Generally, one wide-beam lighting unit placed near the camera lens is sufficient.
2. Tilt the card, if necessary, for even reflectance. The color balance and exposure on the card should match the color exposure of the scene.

Exception: when the card is to serve as a grading reference for special lighting. (See Darker or Lighter Grading and Special Lighting and Exposure Control.)

3. Take a reflected light reading on the gray portion of the card from the camera position. Select a lens aperture that will make the card a valid reference for grading and/or exposure evaluation. (See the following instructions on using the card.)
4. Shoot a few feet of the card (close-up) immediately preceding the scene it references and for every major lighting change. If possible, pull or zoom back and shoot the card a second time including some of the scene for practical reference.



Using the KODAK Gray Card Plus for Transfer Grading and Film Color Timing

Normal color balance is 3200°K tungsten; 5600°K daylight.

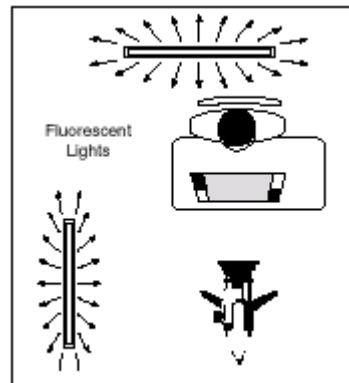
1. Follow the instructions for shooting the card as part of the scene or in the alternate position.
2. Shoot the card at the same aperture and temperature as the scene.

Color Correction

When the lighting does not match the color balance of the film.

Example: shooting under fluorescent or warm tungsten light without correction filters.

1. Make certain the card receives the same light (color and intensity) as the scene to be shot. If necessary, light the card separately as described under alternate position, maintaining the same dominant color balance of the main scene.
2. Shoot the card in the scene or immediately preceding the scene it references.



When the shot with the card is graded to a neutral gray, the scene(s) following will be corrected for a more normal color balance.

Note: If you shoot with color correction filters on the camera or the lights to help balance the scene, make sure you shoot the card under the same filtration. If you are using color filters on the camera or lights for special effects, do not shoot the card using these filters. Your special lighting will be lost when the scene is graded for a neutral gray card.

Mixed Lighting

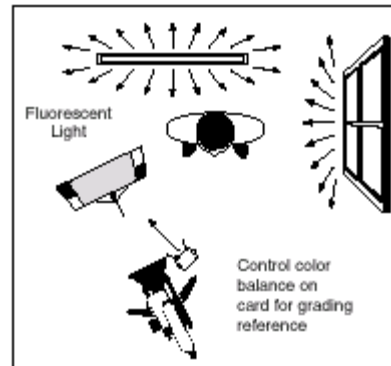
Example: When lighting consists of different color temperatures such as a combination of daylight, fluorescent or tungsten light.

1. Read the color temperature of the various areas in the scene.
2. Determine the color temperature of the area that is visually most dominant.
3. Shoot the card in this area as a reference for the color correction needed in the transfer or print.

– OR –

1. Determine the average color temperature in the scene.
2. Using the alternate position, light the card for this color temperature (if necessary, use separate light[s] with voltage control to achieve the desired color balance on the card).

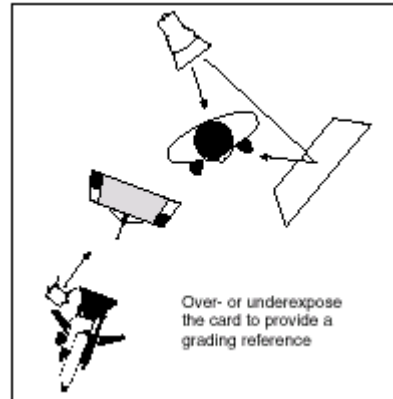
When the shot of the card is graded to a neutral gray, the scene(s) following will be corrected for a warmer or cooler color balance as determined by the light on the card.



Darker or Lighter Grading of Normal Exposure

Examples: When the scene is to be graded darker or lighter as in day-for-night scenes shot at normal exposure; or when a scene is to be transferred or printed two stops darker.

1. Shoot the scene at normal exposure to provide a full-range negative.
2. Overexpose the card if you want the scene darkened. Underexpose the card if you want the scene lightened. The amount the card is over- or underexposed will provide a grading reference for the way the scene is to be transferred or printed.
3. To maintain colored lighting, make sure you shoot the card under "white light" (light balanced for the film). This will preserve your special lighting when the card is timed to a neutral gray.



Special Lighting and Exposure Control

Examples: When non-standard lighting and exposures are to be maintained in the print or transfer, such as scenes intentionally over or underexposed; colored lighting; and other special effects.

1. Light the scene and determine your exposure for the desired effect.
Example: light for T-2.8 with colored gels; shoot at T-4 for one-stop underexposure.
2. Using the alternate position, light the card with "white light" balanced for the film.
3. Take a reflected reading from the camera position and shoot the card at an aperture that will provide a normal gray card exposure, in this case T-2.8.
4. Shoot the scene at the aperture you've chosen for under or overexposure.

When the card is graded to 18% neutral gray, and this grading is maintained for the scene that follows, your special lighting and exposures should be maintained.

Note: If you light a scene with a wide mix of colors where no one source is dominant – fire, smoke heavy gels – shoot the card in the alternate position under "white light" (balanced for the film) to maintain your special lighting. If possible, include some of the scene with the card for practical reference.

Using KODAK Gray Card Plus for Exposure Evaluation

With the KODAK Telecine Exposure Calibration (TEC) Film to determine transfer points.

1. Shoot the card as part of the scene or use the alternate position.
For exposure evaluation, the card and the scene must be shot at the same exposure. Generally, this is shot for transfer grading and film timing.
2. Exception: as a guide for darker or lighter grading or special lighting and exposure control, the card and scene are usually shot at different exposures. The gray card no longer serves as an accurate reference for exposure evaluation.
3. Shoot the card twice if different exposures are required for grading and exposure evaluation. Identify each reference.

The colorist reads the red, green and blue values from the gray card and compares these to the Standard TEC film reference. Exposures are evaluated in terms of transfer points, similar to printer points in the film lab.

Using Filters and the KODAK Gray Card Plus

- If you are using filters on the camera or on a light source for color compensation (e.g., KODAK Wratten 85 filter on the lens or gel on a window), shoot the card with the filter(s) in place.
- If you are using filters on the lights to create a special effect, shoot the card with "white light" (balanced for the film) to preserve the effect.
- Remember to take the filter factor (FF) into account when the filter is on the camera, or you may underexpose the scene.

Here's a simple way to determine the filter factor:

1. Measure the light from a single narrow source (spotlight) with an incident light meter.
2. Without moving the meter, hold the filter directly in front of the sensor so that all the light reaching the meter must pass through the filter.
3. Compare these two readings. The difference in t-stops will give you the filter factor. One stop = FF 2; two stops = FF 4; three stops = FF8, etc.
4. Dividing the normal exposure index (EI) of the film by the filter factor will give you the effective EI for the film with that filter on the lens.

Example: normal 100 FF 2 (one t-stop) = EI 50.

Based on your own experience and preference in determining proper exposure, you may choose to alter these procedures. The main thing is to be consistent, so that the colorist or timer can uniformly set up the transfer or select printer lights to maintain the look you worked to achieve.

For the Colorist

KODAK Gray Card Plus helps establish grading that best maintains the lighting in the original film. That can save considerable time and take the guesswork out of wondering, "How is this scene supposed to look?"

The card is also the standard reference for KODAK Telecine Exposure Calibration (TEC) Film, which gives you transfer points and objective exposure information for the cinematographer.

Using the KODAK Gray Card Plus as a Grading Reference

Always grade the center portion of the card to 18% neutral gray. That will give you a good grading reference to transfer the scene(s) that follow.

1. Center the controls using Kodak telecine analysis film or another other baseline reference.
2. Locate the first shot of the Kodak gray card plus. Roll into the shot to make sure the lighting does not change.
3. Set the voltages or IRE values for the white, gray and black areas of the card to those indicated below.
4. Use these settings for grading the scenes referenced by the gray card. Make corrections, if needed, to improve overall color and contrast.
5. Store the settings so that they may be recalled for future use.
6. Proceed to the next card and set up accordingly.

Grading Values for Kodak gray card plus – normal exposure

	Voltage	IRE
White	0.56V	80
Gray	0.32V	45
Black	0.14V	20

Note: If the cinematographer has designed special lighting, e.g., colored gels, fire, low-key, etc., or used special lens filters, the lighting on the card will not match the scene. However, grading the gray portion of the card to 18% neutral will help to maintain the desired effect in the transfer.

Using the KODAK Gray Card Plus as a Reference to Determine Transfer Points

The following are basic procedures for using the gray card with KODAK Telecine Exposure Calibration Film. Consult the TEC film's user guide for complete instructions.

1. Locate the first shot of the gray card on the roll of negative to be transferred.
2. Recall the TEC film settings previously stored in memory
3. Read the red, green, and blue values on the wave form monitor from the gray portion of the card.

Note: Do not zoom in or change the size of the gray card.

4. Convert these voltages or IRE values to transfer points using the TEC film conversion table or automatic reading system.

A normally exposed 18% gray card has RGB transfer points of 25-25-25. You can now assess exposures in much the same way as a timer uses printer points. One t-stop is equal to approximately 7 printer points or 7 transfer points. Thus, commonly understood exposure relationships maintained.

Note: If the card has been shot as a reference for darker or lighter grading or special lighting and exposure control, the card will not be an accurate reference for determining reference points. In such cases the cinematographer must shoot the card a second time and identify it as an exposure reference.

For the Film Timer

Reading the gray densities of the KODAK Gray Card Plus provides an objective evaluation of film exposure. Reading the black and white patches on the card will indicate the range of brightness and where the scene falls on the sensitometric curve for any given film stock.

Generally, you will time your dailies using a color analyzer. However, for those scenes where the cinematographer used special lighting or intentionally altered exposure, the KODAK Gray Card Plus provides a good reference to establish printer lights that best preserve the cinematographer's intent.

Using the KODAK Gray Card Plus to Time Special Scenes

1. Read the red, green, and blue densities from the gray portion of each card on the film.
2. Use these values to establish your initial timing for the scenes following the gray card reference.
3. Verify your timing on a color analyzer based on the lights you have determined best for the gray card exposures.

KODAK Telecine Exposure Calibration Film Conversion Tables

5285*				
Red Volts	Green Volts	Blue Volts	Transfer Points**	Exposure (Stop)
85	82	82		-3
84	81	82		-2 2/3
81	79	81		-2 1/3
75	75	80		-2
70	70	77		-1 2/3
64	64	70		-1 1/3
56	56	63		-1
51	50	57		-2/3
46	45	50		-1/3
41	40	45		0
35	34	39		+1/3
28	28	32		+2/3
22	22	26		+1
16	16	21		+1 1/3
9	10	15		+1 2/3
5	7	10		+2
4	5	6		+2 1/3
1	1	2		+2 2/3
0	0	0		+3

***Note:** This exposure information is valid for gray cards that are scanned using Ektachrome 100D TAF calibration settings. There is no TEC film for Ektachrome 100D and there are consequently no TEC calibration settings for Ektachrome 100D

****Note:** Transfer points are generally relative to the printing points needed to account for varying levels of exposure. As a positive original media, Ektachrome 100D, 5285, undergoes no standard direct printing and has no applicable transfer point convention

5285*				
Red IRE	Green IRE	Blue IRE	Transfer Points**	Exposure (Stop)
0.60	0.57	0.57		-3
0.58	0.57	0.57		-2 2/3
0.57	0.55	0.57		-2 1/3
0.53	0.53	0.56		-2
0.49	0.49	0.54		-1 2/3
0.45	0.45	0.49		-1 1/3
0.39	0.39	0.44		-1
0.36	0.35	0.40		-2/3
0.32	0.31	0.35		-1/3
0.29	0.28	0.32		0
0.25	0.24	0.27		+1/3
0.19	0.19	0.23		+2/3
0.15	0.15	0.18		+1
0.11	0.11	0.15		+1 1/3
0.06	0.07	0.10		+1 2/3
0.04	0.05	0.07		+2
0.03	0.04	0.04		+2 1/3
0.01	0.01	0.02		+2 2/3
0.00	0.00	0.00		+3

***Note:** This exposure information is valid for gray cards that are scanned using Ektachrome 100D TAF calibration settings. There is no TEC film for Ektachrome 100D and there are consequently no TEC calibration settings for Ektachrome 100D

****Note:** Transfer points are generally relative to the printing points needed to account for varying levels of exposure. As a positive original media, Ektachrome 100D, 5285, undergoes no standard direct printing and has no applicable transfer point convention

5274/7274				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.02	0.06	0.04	3	-3
0.04	0.08	0.06	4	-3
0.06	0.10	0.08	5	-2 2/3
0.08	0.11	0.09	6	-2 2/3
0.09	0.12	0.11	7	-2 2/3
0.11	0.14	0.12	8	-2 1/3
0.12	0.15	0.14	9	-2 1/3
0.14	0.16	0.15	10	-2
0.15	0.17	0.17	11	-2
0.17	0.18	0.18	12	-1 2/3
0.18	0.20	0.19	13	-1 2/3
0.19	0.21	0.20	14	-1 2/3
0.21	0.22	0.22	15	-1 1/3
0.22	0.23	0.23	16	-1 1/3
0.23	0.24	0.24	17	-1
0.25	0.25	0.25	18	-1
0.26	0.26	0.27	19	-1
0.27	0.27	0.28	20	-2/3
0.29	0.28	0.29	21	-2/3
0.30	0.30	0.30	22	-2/3
0.31	0.31	0.32	23	-1/3
0.33	0.32	0.33	24	-1/3
0.34	0.33	0.34	25	0
0.36	0.35	0.35	26	0
0.38	0.36	0.37	27	+1/3
0.39	0.38	0.38	28	+1/3
0.41	0.39	0.40	29	+1/3
0.43	0.41	0.41	30	+2/3
0.44	0.42	0.43	31	+2/3
0.46	0.44	0.44	32	+1
0.48	0.46	0.46	33	+1
0.50	0.48	0.47	34	+1
0.52	0.49	0.49	35	+1 1/3
0.54	0.51	0.50	36	+1 1/3
0.56	0.53	0.52	37	+1 2/3
0.58	0.55	0.54	38	+1 2/3
0.60	0.56	0.55	39	+2
0.62	0.58	0.57	40	+2
0.64	0.60	0.58	41	+2 1/3
0.66	0.61	0.60	42	+2 1/3
0.68	0.63	0.62	43	+2 2/3
0.70	0.65	0.63	44	+2 2/3
0.72	0.66	0.65	45	+2 2/3
0.74	0.68	0.66	46	+3

5274/7274				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
2	9	6	3	-3
5	11	9	4	-3
8	14	11	5	-2 2/3
11	16	14	6	-2 2/3
13	18	16	7	-2 2/3
16	20	18	8	-2 1/3
18	21	20	9	-2 1/3
20	23	22	10	-2
22	25	24	11	-2
24	26	26	12	-1 2/3
26	28	27	13	-1 2/3
28	29	29	14	-1 2/3
30	31	31	15	-1 1/3
31	32	33	16	-1 1/3
33	34	34	17	-1
35	36	36	18	-1
37	37	38	19	-1
39	39	40	20	-2/3
41	40	41	21	-2/3
43	42	43	22	-2/3
45	44	45	23	-1/3
47	46	47	24	-1/3
49	48	49	25	0
51	50	51	26	0
54	52	53	27	+1/3
56	54	55	28	+1/3
58	56	57	29	+1/3
61	58	59	30	+2/3
63	61	61	31	+2/3
66	63	63	32	+1
69	65	65	33	+1
71	68	67	34	+1
74	70	70	35	+1 1/3
77	73	72	36	+1 1/3
80	75	74	37	+1 2/3
83	78	77	38	+1 2/3
86	80	79	39	+2
88	83	81	40	+2
91	85	84	41	+2 1/3
94	88	86	42	+2 1/3
97	90	88	43	+2 2/3
100	92	90	44	+2 2/3
102	94	93	45	+2 2/3
105	97	95	46	+3

5246/7246				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.02	0.06	0.04	3	-3
0.04	0.08	0.06	4	
0.06	0.10	0.08	5	-2 2/3
0.08	0.11	0.09	6	
0.09	0.12	0.11	7	-2 1/3
0.11	0.14	0.12	8	
0.12	0.15	0.14	9	
0.14	0.16	0.15	10	-2
0.15	0.17	0.17	11	
0.17	0.18	0.18	12	-1 2/3
0.18	0.20	0.19	13	
0.19	0.21	0.20	14	
0.21	0.22	0.22	15	-1 1/3
0.22	0.23	0.23	16	
0.23	0.24	0.24	17	
0.25	0.25	0.25	18	-1
0.26	0.26	0.27	19	
0.27	0.27	0.28	20	-2/3
0.29	0.28	0.29	21	
0.30	0.30	0.30	22	-1/3
0.31	0.31	0.32	23	
0.33	0.32	0.33	24	
0.34	0.33	0.34	25	0
0.36	0.35	0.35	26	
0.38	0.36	0.37	27	+1/3
0.39	0.38	0.38	28	
0.41	0.39	0.40	29	
0.43	0.41	0.41	30	+2/3
0.44	0.42	0.43	31	
0.46	0.44	0.44	32	+1
0.48	0.46	0.46	33	
0.50	0.48	0.47	34	+1 1/3
0.52	0.49	0.49	35	
0.54	0.51	0.50	36	
0.56	0.53	0.52	37	+1 2/3
0.58	0.55	0.54	38	
0.60	0.56	0.55	39	+2
0.62	0.58	0.57	40	
0.64	0.60	0.58	41	+2 1/3
0.66	0.61	0.60	42	
0.68	0.63	0.62	43	+2 2/3
0.70	0.65	0.63	44	
0.72	0.66	0.65	45	
0.74	0.68	0.66	46	+3

5246/7246				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
2	9	7	3	-3
5	11	10	4	
8	13	13	5	-2 2/3
11	16	16	6	
14	18	19	7	-2 1/3
16	20	21	8	
19	22	24	9	
21	24	26	10	-2
23	25	28	11	
26	27	30	12	-1 2/3
28	29	32	13	
30	31	34	14	
32	33	36	15	-1 1/3
34	34	37	16	
36	36	39	17	-1
38	38	41	18	
40	39	42	19	
43	41	44	20	-2/3
45	43	46	21	
47	44	47	22	
49	46	49	23	-1/3
52	48	51	24	
54	50	52	25	0
57	51	54	26	
59	53	56	27	+1/3
62	55	58	28	
64	57	60	29	
67	59	62	30	+2/3
70	61	63	31	
73	63	66	32	+1
75	66	68	33	
78	68	70	34	+1 1/3
81	71	72	35	
84	73	74	36	
87	76	77	37	+1 2/3
90	79	79	38	
93	82	82	39	+2
96	85	84	40	
99	88	87	41	+2 1/3
101	92	89	42	
104	95	92	43	+2 2/3
107	99	95	44	
110	103	98	45	
112	107	101	46	+3

5246/7246				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.02	0.06	0.04	3	-3
0.04	0.08	0.06	4	
0.06	0.10	0.08	5	-2 2/3
0.08	0.11	0.09	6	
0.09	0.12	0.11	7	-2 1/3
0.11	0.14	0.12	8	
0.12	0.15	0.14	9	
0.14	0.16	0.15	10	-2
0.15	0.17	0.17	11	
0.17	0.18	0.18	12	-1 2/3
0.18	0.20	0.19	13	
0.19	0.21	0.20	14	
0.21	0.22	0.22	15	-1 1/3
0.22	0.23	0.23	16	
0.23	0.24	0.24	17	
0.25	0.25	0.25	18	-1
0.26	0.26	0.27	19	
0.27	0.27	0.28	20	-2/3
0.29	0.28	0.29	21	
0.30	0.30	0.30	22	-1/3
0.31	0.31	0.32	23	
0.33	0.32	0.33	24	
0.34	0.33	0.34	25	0
0.36	0.35	0.35	26	
0.38	0.36	0.37	27	+1/3
0.39	0.38	0.38	28	
0.41	0.39	0.40	29	
0.43	0.41	0.41	30	+2/3
0.44	0.42	0.43	31	
0.46	0.44	0.44	32	+1
0.48	0.46	0.46	33	
0.50	0.48	0.47	34	+1 1/3
0.52	0.49	0.49	35	
0.54	0.51	0.50	36	
0.56	0.53	0.52	37	+1 2/3
0.58	0.55	0.54	38	
0.60	0.56	0.55	39	+2
0.62	0.58	0.57	40	
0.64	0.60	0.58	41	+2 1/3
0.66	0.61	0.60	42	
0.68	0.63	0.62	43	+2 2/3
0.70	0.65	0.63	44	
0.72	0.66	0.65	45	
0.74	0.68	0.66	46	+3

5246/7246				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
2	9	7	3	-3
5	11	10	4	
8	13	13	5	-2 2/3
11	16	16	6	
14	18	19	7	-2 1/3
16	20	21	8	
19	22	24	9	
21	24	26	10	-2
23	25	28	11	
26	27	30	12	-1 2/3
28	29	32	13	
30	31	34	14	
32	33	36	15	-1 1/3
34	34	37	16	
36	36	39	17	-1
38	38	41	18	
40	39	42	19	
43	41	44	20	-2/3
45	43	46	21	
47	44	47	22	
49	46	49	23	-1/3
52	48	51	24	
54	50	52	25	0
57	51	54	26	
59	53	56	27	+1/3
62	55	58	28	
64	57	60	29	
67	59	62	30	+2/3
70	61	63	31	
73	63	66	32	+1
75	66	68	33	
78	68	70	34	+1 1/3
81	71	72	35	
84	73	74	36	
87	76	77	37	+1 2/3
90	79	79	38	
93	82	82	39	+2
96	85	84	40	
99	88	87	41	+2 1/3
101	92	89	42	
104	95	92	43	+2 2/3
107	99	95	44	
110	103	98	45	
112	107	101	46	+3

5277/7277				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.02	0.05	0.04	7	-3
0.03	0.06	0.04	8	-2 2/3
0.04	0.07	0.05	9	-2 2/3
0.05	0.08	0.06	10	-2 1/3
0.06	0.09	0.07	11	-2 1/3
0.07	0.10	0.08	12	-2
0.08	0.11	0.10	13	-2
0.09	0.12	0.11	14	-1 2/3
0.11	0.14	0.12	15	-1 2/3
0.12	0.15	0.13	16	-1 1/3
0.14	0.16	0.14	17	-1 1/3
0.15	0.17	0.15	18	-1
0.17	0.19	0.17	19	-1
0.18	0.20	0.18	20	-2/3
0.20	0.21	0.19	21	-2/3
0.22	0.23	0.21	22	-1/3
0.23	0.24	0.22	23	-1/3
0.25	0.26	0.24	24	-1/3
0.27	0.27	0.25	25	0
0.29	0.29	0.27	26	0
0.31	0.31	0.28	27	+1/3
0.33	0.32	0.30	28	+1/3
0.35	0.34	0.31	29	+2/3
0.37	0.36	0.33	30	+2/3
0.39	0.37	0.35	31	+2/3
0.41	0.39	0.37	32	+1
0.43	0.41	0.38	33	+1
0.45	0.43	0.40	34	+1 1/3
0.47	0.45	0.42	35	+1 1/3
0.49	0.47	0.43	36	+1 2/3
0.51	0.48	0.45	37	+1 2/3
0.54	0.50	0.47	38	+2
0.56	0.52	0.48	39	+2
0.59	0.54	0.50	40	+2 1/3
0.61	0.56	0.52	41	+2 1/3
0.64	0.58	0.53	42	+2 2/3
0.66	0.60	0.55	43	+2 2/3
0.69	0.61	0.56	44	+3

5277/7277				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
3	6	5	7	-3
4	8	6	8	-2 2/3
5	10	8	9	-2 2/3
7	11	9	10	-2 1/3
8	13	11	11	-2 1/3
10	14	12	12	-2
12	16	14	13	-2
14	18	15	14	-1 2/3
15	19	17	15	-1 2/3
18	21	18	16	-1 1/3
20	23	20	17	-1 1/3
22	25	22	18	-1
24	27	24	19	-1
26	29	26	20	-2/3
29	31	28	21	-2/3
31	33	30	22	-1/3
34	35	32	23	-1/3
36	37	34	24	-1/3
39	39	36	25	0
41	41	38	26	0
44	44	40	27	+1/3
47	46	43	28	+1/3
49	48	45	29	+2/3
52	51	47	30	+2/3
55	53	50	31	+2/3
58	56	52	32	+1
61	59	55	33	+1
64	61	57	34	+1 1/3
67	64	59	35	+1 1/3
70	66	62	36	+1 2/3
74	69	64	37	+1 2/3
77	72	67	38	+2
80	75	69	39	+2
84	77	72	40	+2 1/3
87	80	74	41	+2 1/3
91	82	76	42	+2 2/3
95	85	78	43	+2 2/3
99	88	80	44	+3

5279/7279				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.01	0.03	0.02	3	-3
0.02	0.05	0.04	4	-3
0.03	0.06	0.05	5	-2 2/3
0.04	0.08	0.06	6	-2 2/3
0.05	0.09	0.07	7	-2 2/3
0.06	0.10	0.08	8	-2 1/3
0.07	0.11	0.09	9	-2 1/3
0.08	0.13	0.10	10	-2 1/3
0.09	0.14	0.11	11	-2
0.10	0.15	0.12	12	-2
0.11	0.16	0.13	13	-2
0.12	0.18	0.14	14	-1 2/3
0.14	0.19	0.16	15	-1 2/3
0.15	0.20	0.17	16	-1 1/3
0.16	0.22	0.18	17	-1 1/3
0.18	0.23	0.19	18	-1
0.19	0.24	0.20	19	-1
0.21	0.26	0.22	20	-1
0.22	0.27	0.23	21	-2/3
0.24	0.29	0.25	22	-2/3
0.26	0.30	0.26	23	-1/3
0.28	0.32	0.28	24	-1/3
0.29	0.33	0.29	25	0
0.31	0.35	0.31	26	0
0.33	0.37	0.33	27	+1/3
0.35	0.38	0.34	28	+1/3
0.37	0.40	0.36	29	+1/3
0.39	0.42	0.38	30	+2/3
0.41	0.44	0.40	31	+2/3
0.44	0.46	0.42	32	+2/3
0.46	0.48	0.44	33	+1
0.48	0.50	0.46	34	+1
0.50	0.52	0.48	35	+1 1/3
0.52	0.54	0.50	36	+1 1/3
0.54	0.56	0.52	37	+1 1/3
0.57	0.58	0.53	38	+1 2/3
0.59	0.60	0.55	39	+1 2/3
0.61	0.63	0.57	40	+2
0.63	0.65	0.59	41	+2
0.65	0.67	0.60	42	+2 1/3
0.67	0.69	0.62	43	+2 1/3
0.69	0.72	0.63	44	+2 2/3
0.71	0.74	0.64	45	+2 2/3
0.72	0.76	0.66	46	+3

5279/7279				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
1	5	3	3	-3
3	7	5	4	-3
4	9	7	5	-2 2/3
5	11	8	6	-2 2/3
7	13	10	7	-2 2/3
8	14	12	8	-2 1/3
9	16	13	9	-2 1/3
11	18	15	10	-2 1/3
13	20	16	11	-2
14	22	18	12	-2
16	23	19	13	-2
18	25	21	14	-1 2/3
19	27	22	15	-1 2/3
21	29	24	16	-1 1/3
23	31	26	17	-1 1/3
25	33	27	18	-1
27	35	29	19	-1
30	37	31	20	-1
32	39	33	21	-2/3
34	41	35	22	-2/3
37	43	37	23	-1/3
39	45	40	24	-1/3
42	48	42	25	0
45	50	44	26	0
48	52	47	27	+1/3
50	55	49	28	+1/3
53	57	52	29	+1/3
56	60	55	30	+2/3
59	63	57	31	+2/3
62	66	60	32	+2/3
65	68	63	33	+1
68	71	65	34	+1
71	74	68	35	+1 1/3
75	77	71	36	+1 1/3
78	80	74	37	+1 1/3
81	83	76	38	+1 2/3
84	86	79	39	+1 2/3
87	89	81	40	+2
90	93	84	41	+2
93	96	86	42	+2 1/3
96	99	88	43	+2 1/3
98	102	90	44	+2 2/3
100	106	92	45	+2 2/3
102	109	94	46	+3

5289				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.05	0.09	0.07	4	-3
0.06	0.10	0.08	5	-3
0.08	0.10	0.08	6	-2 2/3
0.10	0.11	0.09	7	-2 2/3
0.11	0.11	0.11	8	-2 1/3
0.11	0.14	0.12	9	-2 1/3
0.12	0.15	0.12	10	-2
0.14	0.15	0.13	11	-2
0.15	0.15	0.14	12	-2
0.16	0.16	0.16	13	-1 2/3
0.16	0.20	0.16	14	-1 2/3
0.18	0.20	0.17	15	-1 1/3
0.21	0.21	0.17	16	-1 1/3
0.22	0.21	0.20	17	-1 1/3
0.22	0.22	0.22	18	-1
0.23	0.26	0.23	19	-1
0.26	0.27	0.23	20	-2/3
0.27	0.27	0.24	21	-2/3
0.27	0.28	0.24	22	-2/3
0.28	0.28	0.27	23	-1/3
0.32	0.30	0.29	24	-1/3
0.33	0.33	0.30	25	0
0.34	0.34	0.30	26	0
0.34	0.34	0.30	27	+1/3
0.39	0.35	0.32	28	+1/3
0.40	0.39	0.35	29	+1/3
0.41	0.40	0.35	30	+2/3
0.41	0.41	0.36	31	+2/3
0.43	0.41	0.36	32	+1
0.47	0.44	0.37	33	+1
0.48	0.49	0.41	34	+1
0.49	0.49	0.42	35	+1 1/3
0.50	0.50	0.42	36	+1 1/3
0.55	0.51	0.43	37	+1 2/3
0.56	0.55	0.44	38	+1 2/3
0.57	0.58	0.48	39	+2
0.60	0.58	0.49	40	+2
0.63	0.59	0.49	41	+2
0.63	0.60	0.50	42	+2 1/3
0.64	0.64	0.51	43	+2 1/3
0.65	0.65	0.56	44	+2 2/3
0.66	0.66	0.57	45	+3

5289				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
10	14	10	4	-3
10	14	12	5	-3
11	15	12	6	-2 2/3
14	15	13	7	-2 2/3
15	16	15	8	-2 1/3
16	20	17	9	-2 1/3
17	21	18	10	-2
20	21	18	11	-2
22	22	20	12	-2
23	23	23	13	-1 2/3
24	28	24	14	-1 2/3
26	29	24	15	-1 1/3
30	30	25	16	-1 1/3
31	30	28	17	-1 1/3
31	32	32	18	-1
33	38	32	19	-1
38	39	33	20	-2/3
39	39	34	21	-2/3
39	40	34	22	-2/3
40	41	39	23	-1/3
46	42	42	24	-1/3
47	47	42	25	0
48	48	43	26	0
49	48	44	27	+1/3
56	50	46	28	+1/3
57	56	50	29	+1/3
58	57	51	30	+2/3
59	58	51	31	+2/3
62	59	52	32	+1
68	62	53	33	+1
68	70	58	34	+1
69	71	60	35	+1 1/3
71	71	60	36	+1 1/3
79	72	61	37	+1 2/3
80	79	63	38	+1 2/3
82	82	69	39	+2
86	83	70	40	+2
89	84	71	41	+2
90	86	71	42	+2 1/3
92	91	73	43	+2 1/3
93	93	80	44	+2 2/3
94	94	81	45	+3

5245/7245				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.00	0.02	0.04	3	-3
0.01	0.04	0.06	4	
0.02	0.05	0.07	5	-2 2/3
0.03	0.07	0.09	6	
0.04	0.08	0.10	7	
0.05	0.09	0.11	8	-2 1/3
0.06	0.10	0.13	9	
0.07	0.11	0.14	10	-2
0.08	0.12	0.15	11	
0.10	0.13	0.16	12	
0.11	0.15	0.17	13	-1 2/3
0.12	0.16	0.19	14	
0.13	0.17	0.20	15	
0.14	0.18	0.21	16	-1 1/3
0.16	0.19	0.22	17	
0.17	0.20	0.23	18	-1
0.19	0.21	0.25	19	
0.20	0.23	0.26	20	-2/3
0.22	0.24	0.28	21	
0.23	0.25	0.29	22	-1/3
0.25	0.27	0.31	23	
0.27	0.28	0.32	24	
0.29	0.30	0.34	25	0
0.31	0.31	0.36	26	
0.33	0.33	0.38	27	+1/3
0.35	0.34	0.39	28	
0.37	0.36	0.41	29	+2/3
0.39	0.38	0.43	30	
0.41	0.40	0.45	31	
0.43	0.41	0.47	32	+1
0.45	0.43	0.49	33	
0.47	0.45	0.51	34	
0.50	0.47	0.53	35	+1 1/3
0.52	0.49	0.55	36	
0.54	0.51	0.57	37	+1 2/3
0.56	0.53	0.59	38	
0.58	0.54	0.61	39	
0.61	0.56	0.62	40	+2
0.63	0.58	0.64	41	
0.65	0.60	0.66	42	+2 1/3
0.67	0.61	0.67	43	
0.69	0.63	0.68	44	
0.71	0.64	0.69	45	+2 2/3
0.73	0.65	0.70	46	
0.75	0.67	0.71	47	
0.77	0.68	0.71	48	+3

5245/7245				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
1	3	6	3	-3
2	6	9	4	
3	8	11	5	-2 2/3
5	10	13	6	
6	11	15	7	
8	13	16	8	-2 1/3
9	15	18	9	
10	16	20	10	-2
12	18	21	11	
14	19	23	12	
15	21	25	13	-1 2/3
17	22	26	14	
19	24	28	15	
21	25	30	16	-1 1/3
23	27	32	17	
25	29	34	18	-1
27	30	35	19	
29	32	37	20	-2/3
31	34	40	21	
33	36	42	22	-1/3
36	38	44	23	
38	40	46	24	
41	42	49	25	0
44	44	51	26	
46	47	54	27	+1/3
49	49	56	28	
52	51	59	29	+2/3
55	54	62	30	
58	56	64	31	
61	59	67	32	+1
64	62	70	33	
68	64	73	34	
71	67	76	35	+1 1/3
74	70	79	36	
77	72	81	37	+1 2/3
80	75	84	38	
84	78	87	39	
87	80	89	40	+2
90	83	91	41	
93	85	94	42	+2 1/3
96	87	96	43	
99	90	97	44	
100	92	99	45	+2 2/3
102	94	100	46	
104	95	101	47	
106	97	102	48	+3

5248/7248				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.02	0.03	0.04	4	-3
0.03	0.05	0.05	5	
0.04	0.06	0.05	6	-2 2/3
0.05	0.07	0.06	7	
0.06	0.08	0.07	8	-2 1/3
0.07	0.10	0.08	9	
0.08	0.11	0.10	10	-2
0.10	0.12	0.11	11	
0.11	0.13	0.12	12	-1 2/3
0.12	0.15	0.14	13	
0.13	0.16	0.15	14	-1 1/3
0.14	0.17	0.16	15	
0.16	0.18	0.18	16	-1
0.17	0.19	0.19	17	
0.19	0.21	0.20	18	-2/3
0.20	0.22	0.22	19	
0.22	0.23	0.23	20	-1/3
0.23	0.25	0.24	21	
0.25	0.26	0.26	22	
0.27	0.28	0.27	23	
0.28	0.29	0.28	24	
0.30	0.30	0.29	25	0
0.32	0.32	0.30	26	
0.34	0.34	0.31	27	+1/3
0.36	0.35	0.32	28	
0.38	0.37	0.33	29	+2/3
0.40	0.39	0.34	30	
0.42	0.40	0.35	31	+1
0.44	0.42	0.36	32	
0.47	0.44	0.38	33	+1 1/3
0.49	0.46	0.39	34	
0.51	0.47	0.40	35	+1 2/3
0.53	0.49	0.41	36	
0.55	0.51	0.42	37	
0.57	0.53	0.44	38	
0.59	0.55	0.45	39	
0.61	0.57	0.47	40	+2
0.63	0.59	0.49	41	
0.64	0.61	0.51	42	+2 1/3
0.66	0.63	0.53	43	
0.67	0.65	0.56	44	
0.68	0.67	0.58	45	+2 2/3
0.70	0.69	0.62	46	
0.70	0.71	0.65	47	+3

5248/7248				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
2	5	6	4	-3
4	6	7	5	
6	8	8	6	-2 2/3
7	10	9	7	
9	12	10	8	-2 1/3
10	14	12	9	
12	16	14	10	-2
14	17	16	11	
15	19	17	12	-1 2/3
17	21	19	13	
19	23	21	14	-1 1/3
21	24	23	15	
22	26	25	16	-1
24	28	27	17	
27	30	29	18	-2/3
29	32	31	19	
31	33	33	20	-1/3
33	35	35	21	
36	37	37	22	
38	39	38	23	
41	41	40	24	
43	44	42	25	0
46	46	43	26	
49	48	45	27	+1/3
52	50	46	28	
55	53	48	29	+2/3
57	55	49	30	
60	57	51	31	+1
64	60	52	32	
67	63	54	33	+1 1/3
70	65	55	34	
73	68	57	35	+1 2/3
76	70	59	36	
79	73	60	37	
81	76	62	38	
84	79	65	39	
87	82	67	40	+2
89	84	70	41	
92	87	73	42	+2 1/3
94	90	76	43	
96	93	79	44	+2 2/3
98	96	83	45	
99	99	88	46	
100	101	93	47	+3

5287/7287				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.04	0.05	0.06	7	-3
0.05	0.06	0.07	8	
0.06	0.07	0.08	9	-2 2/3
0.07	0.08	0.09	10	
0.09	0.10	0.10	11	-2 1/3
0.10	0.11	0.12	12	
0.11	0.12	0.13	13	-2
0.13	0.13	0.14	14	-1 2/3
0.14	0.14	0.15	15	
0.16	0.16	0.16	16	
0.17	0.17	0.18	17	-1 1/3
0.19	0.18	0.19	18	
0.21	0.19	0.20	19	-1
0.23	0.21	0.21	20	
0.24	0.22	0.22	21	-2/3
0.26	0.24	0.24	22	
0.28	0.25	0.25	23	-1/3
0.30	0.27	0.26	24	
0.32	0.28	0.28	25	0
0.34	0.30	0.29	26	+1/3
0.36	0.31	0.31	27	
0.38	0.33	0.32	28	+2/3
0.40	0.34	0.34	29	
0.42	0.36	0.35	30	
0.44	0.38	0.37	31	+1
0.46	0.40	0.38	32	
0.49	0.41	0.40	33	+1 1/3
0.51	0.43	0.42	34	
0.53	0.45	0.44	35	+1 2/3
0.55	0.47	0.46	36	
0.57	0.48	0.47	37	+2
0.59	0.50	0.49	38	
0.61	0.52	0.51	39	+2 1/3
0.63	0.54	0.53	40	
0.65	0.56	0.55	41	+2 2/3
0.67	0.57	0.58	42	
0.69	0.59	0.60	43	+3

5287/7287				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
5	7	8	7	-3
7	9	10	8	
9	10	11	9	-2 2/3
10	12	13	10	
12	14	15	11	-2 1/3
14	15	16	12	
16	17	18	13	-2
18	19	20	14	-1 2/3
20	21	22	15	
23	22	23	16	
25	24	25	17	-1 1/3
27	26	27	18	
30	28	29	19	-1
32	30	30	20	
35	32	32	21	-2/3
37	34	34	22	
40	36	36	23	-1/3
43	38	38	24	
46	40	40	25	0
48	42	42	26	+1/3
51	45	44	27	
54	47	46	28	+2/3
57	49	48	29	
60	52	50	30	
63	54	53	31	+1
66	56	55	32	
69	59	57	33	+1 1/3
72	62	60	34	
76	64	62	35	+1 2/3
79	67	65	36	
82	69	68	37	+2
85	72	70	38	
87	74	73	39	+2 1/3
90	77	76	40	
93	80	79	41	+2 2/3
96	82	82	42	
99	85	85	43	+3

5293/7293				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.01	0.03	0.02	4	-3
0.01	0.04	0.03	5	-3
0.02	0.05	0.04	6	-2 2/3
0.03	0.06	0.05	7	-2 2/3
0.04	0.07	0.06	8	-2 1/3
0.05	0.08	0.07	9	-2 1/3
0.05	0.09	0.08	10	-2
0.06	0.10	0.09	11	-2
0.07	0.11	0.10	12	-2
0.09	0.12	0.11	13	-1 2/3
0.10	0.13	0.12	14	-1 2/3
0.11	0.14	0.12	15	-1 1/3
0.12	0.15	0.13	16	-1 1/3
0.14	0.16	0.14	17	-1
0.15	0.17	0.16	18	-1
0.16	0.19	0.17	19	-1
0.18	0.20	0.18	20	-2/3
0.20	0.21	0.19	21	-2/3
0.21	0.22	0.20	22	-1/3
0.23	0.24	0.21	23	-1/3
0.25	0.25	0.23	24	-1/3
0.26	0.27	0.24	25	0
0.28	0.28	0.26	26	0
0.30	0.30	0.27	27	+1/3
0.32	0.31	0.29	28	+1/3
0.34	0.33	0.30	29	+2/3
0.36	0.35	0.32	30	+2/3
0.38	0.36	0.33	31	+2/3
0.41	0.38	0.35	32	+1
0.43	0.40	0.37	33	+1
0.45	0.41	0.39	34	+1 1/3
0.47	0.43	0.40	35	+1 1/3
0.50	0.45	0.42	36	+1 2/3
0.52	0.47	0.44	37	+1 2/3
0.54	0.48	0.46	38	+2
0.57	0.50	0.48	39	+2
0.59	0.52	0.49	40	+2
0.62	0.53	0.51	41	+2 1/3
0.64	0.55	0.53	42	+2 1/3
0.67	0.57	0.55	43	+2 2/3
0.69	0.58	0.56	44	+2 2/3
0.72	0.60	0.58	45	+2 2/3
0.74	0.61	0.59	46	+3

5293/7293				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
1	4	3	4	-3
2	5	4	5	-3
3	7	6	6	-2 2/3
4	8	7	7	-2 2/3
5	10	9	8	-2 1/3
6	11	10	9	-2 1/3
8	13	11	10	-2
9	14	13	11	-2
11	16	14	12	-2
12	17	15	13	-1 2/3
14	19	16	14	-1 2/3
16	20	18	15	-1 1/3
18	22	19	16	-1 1/3
19	23	21	17	-1
21	25	22	18	-1
24	27	24	19	-1
26	28	25	20	-2/3
28	30	27	21	-2/3
30	32	29	22	-1/3
33	34	31	23	-1/3
35	36	32	24	-1/3
38	38	34	25	0
40	40	37	26	0
43	42	39	27	+1/3
46	45	41	28	+1/3
49	47	43	29	+2/3
52	49	45	30	+2/3
55	52	48	31	+2/3
58	54	50	32	+1
61	57	53	33	+1
64	59	55	34	+1 1/3
68	62	58	35	+1 1/3
71	64	60	36	+1 2/3
74	67	63	37	+1 2/3
78	69	66	38	+2
81	72	68	39	+2
85	74	71	40	+2
88	76	73	41	+2 1/3
92	79	76	42	+2 1/3
95	81	78	43	+2 2/3
99	83	80	44	+2 2/3
101	85	83	45	+2 2/3
103	87	85	46	+3

5296				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.00	0.01	0.01	3	-3
0.01	0.02	0.01	4	
0.01	0.03	0.02	5	-2 2/3
0.02	0.04	0.03	6	
0.03	0.05	0.04	7	
0.04	0.06	0.05	8	-2 1/3
0.05	0.07	0.06	9	
0.06	0.08	0.07	10	-2
0.07	0.09	0.08	11	
0.08	0.10	0.10	12	
0.09	0.11	0.11	13	-1 2/3
0.10	0.11	0.12	14	
0.12	0.12	0.13	15	-1 1/3
0.13	0.13	0.15	16	
0.15	0.14	0.16	17	
0.16	0.15	0.17	18	-1
0.18	0.16	0.19	19	
0.20	0.18	0.20	20	-2/3
0.21	0.19	0.21	21	
0.23	0.20	0.23	22	
0.25	0.21	0.24	23	-1/3
0.27	0.22	0.25	24	
0.29	0.24	0.27	25	0
0.31	0.25	0.28	26	
0.33	0.27	0.29	27	+1/3
0.35	0.28	0.31	28	
0.37	0.30	0.32	29	+2/3
0.39	0.31	0.33	30	
0.41	0.33	0.35	31	
0.44	0.34	0.36	32	+1
0.46	0.36	0.38	33	
0.48	0.38	0.39	34	+1 1/3
0.50	0.39	0.41	35	
0.52	0.41	0.42	36	+1 2/3
0.55	0.43	0.44	37	
0.57	0.45	0.45	38	
0.59	0.47	0.47	39	+2
0.61	0.49	0.49	40	
0.64	0.50	0.50	41	+2 1/3
0.66	0.52	0.52	42	
0.68	0.54	0.54	43	+2 2/3
0.70	0.56	0.56	44	
0.72	0.58	0.58	45	
0.74	0.60	0.60	46	+3

5296				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
0	2	1	3	-3
1	3	2	4	
2	5	3	5	-2 2/3
3	6	4	6	
4	7	6	7	
5	9	7	8	-2 1/3
6	10	9	9	
8	11	10	10	-2
9	12	12	11	
11	14	14	12	
13	15	15	13	-1 2/3
15	16	17	14	
17	18	19	15	-1 1/3
19	19	21	16	
21	21	23	17	
23	22	25	18	-1
25	24	27	19	
28	25	28	20	-2/3
30	27	30	21	
33	28	32	22	
36	30	34	23	-1/3
38	32	36	24	
41	34	38	25	0
44	36	40	26	
47	38	42	27	+1/3
50	40	44	28	
53	42	46	29	+2/3
56	44	48	30	
59	47	50	31	
62	49	52	32	+1
65	51	54	33	
69	54	56	34	+1 1/3
72	56	58	35	
75	59	60	36	+1 2/3
78	61	62	37	
81	64	65	38	
85	67	67	39	+2
88	69	70	40	
91	72	72	41	+2 1/3
94	75	75	42	
97	77	77	43	+2 2/3
100	80	80	44	
102	83	83	45	
104	85	86	46	+3

5298/7298				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.01	0.04	0.03	4	-3
0.02	0.06	0.04	5	
0.03	0.07	0.05	6	-2 2/3
0.04	0.08	0.06	7	
0.05	0.09	0.07	8	-2 1/3
0.06	0.10	0.08	9	
0.07	0.12	0.09	10	-2
0.08	0.13	0.10	11	
0.09	0.14	0.11	12	-1 2/3
0.10	0.15	0.12	13	
0.11	0.16	0.14	14	-1 1/3
0.13	0.17	0.15	15	
0.14	0.18	0.16	16	-1
0.15	0.20	0.17	17	
0.17	0.21	0.18	18	-2/3
0.18	0.22	0.19	19	
0.20	0.23	0.21	20	-1/3
0.21	0.25	0.22	21	
0.23	0.26	0.23	22	0
0.25	0.28	0.25	23	
0.27	0.29	0.26	24	+1/3
0.29	0.31	0.28	25	
0.31	0.32	0.29	26	+2/3
0.33	0.34	0.31	27	
0.35	0.36	0.32	28	+1
0.37	0.38	0.34	29	
0.39	0.39	0.36	30	+1 1/3
0.42	0.41	0.37	31	
0.44	0.43	0.39	32	+1 2/3
0.46	0.45	0.41	33	
0.48	0.47	0.43	34	+2
0.51	0.49	0.45	35	
0.53	0.51	0.47	36	+2 1/3
0.55	0.53	0.48	37	
0.57	0.55	0.50	38	+2 2/3
0.59	0.57	0.52	39	
0.62	0.58	0.54	40	+3
0.63	0.60	0.56	41	
0.65	0.62	0.58	42	
0.67	0.63	0.60	43	
0.69	0.65	0.61	44	
0.70	0.66	0.63	45	
0.71	0.67	0.65	46	

5298/7298				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
2	6	4	4	-3
3	8	6	5	
5	10	7	6	-2 2/3
6	12	9	7	
7	13	10	8	-2 1/3
9	15	12	9	
10	17	13	10	-2
12	18	15	11	
13	20	16	12	-1 2/3
15	21	18	13	
16	23	19	14	-1 1/3
18	25	21	15	
20	26	23	16	-1
22	28	24	17	
24	30	26	18	-2/3
26	32	28	19	
28	33	30	20	-1/3
31	35	32	21	
33	37	33	22	0
36	40	35	23	
38	42	38	24	+1/3
41	44	40	25	
44	46	42	26	+2/3
47	49	44	27	
50	51	46	28	+1
53	54	49	29	
56	56	51	30	+1 1/3
59	59	54	31	
63	62	56	32	+1 2/3
66	64	59	33	
69	67	61	34	+2
72	70	64	35	
76	73	66	36	+2 1/3
79	75	69	37	
82	78	72	38	+2 2/3
85	81	74	39	
88	83	77	40	+3
91	86	80	41	
93	88	83	42	
96	90	85	43	
98	92	88	44	
100	94	90	45	
102	96	93	46	

S0214				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.04	0.05	0.04	5	-3
0.04	0.05	0.04	6	-2 2/3
0.04	0.06	0.04	7	
0.04	0.08	0.05	8	
0.05	0.08	0.08	9	-2 1/3
0.07	0.09	0.08	10	
0.07	0.11	0.08	11	-2
0.07	0.12	0.09	12	
0.08	0.12	0.12	13	-1 2/3
0.10	0.12	0.12	14	
0.11	0.13	0.13	15	
0.11	0.16	0.13	16	-1 1/3
0.13	0.16	0.14	17	
0.16	0.16	0.17	18	-1
0.17	0.19	0.17	19	
0.17	0.21	0.18	20	-2/3
0.22	0.21	0.18	21	
0.22	0.22	0.20	22	
0.23	0.22	0.23	23	-1/3
0.24	0.27	0.23	24	
0.28	0.28	0.24	25	0
0.29	0.28	0.24	26	
0.30	0.29	0.28	27	+1/3
0.30	0.32	0.30	28	
0.32	0.34	0.30	29	
0.37	0.35	0.31	30	+2/3
0.38	0.35	0.31	31	
0.39	0.36	0.34	32	+1
0.44	0.41	0.38	33	
0.46	0.42	0.39	34	+1 1/3
0.47	0.42	0.39	35	
0.48	0.43	0.40	36	
0.54	0.48	0.46	37	+1 2/3
0.55	0.49	0.47	38	
0.56	0.50	0.48	39	+2
0.58	0.50	0.49	40	
0.63	0.55	0.50	41	+2 1/3
0.64	0.56	0.55	42	
0.65	0.57	0.55	43	+2 2/3
0.66	0.58	0.56	44	
0.66	0.59	0.57	45	+3

S0214				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
4	7	5	5	-3
5	7	6	6	-2 2/3
6	9	6	7	
6	11	8	8	
7	12	11	9	-2 1/3
9	12	11	10	
10	16	12	11	-2
10	16	13	12	
11	17	17	13	-1 2/3
15	18	18	14	
15	19	18	15	
16	22	19	16	-1 1/3
18	23	20	17	
23	24	24	18	-1
24	27	25	19	
25	29	26	20	-2/3
31	30	26	21	
32	31	29	22	
33	32	32	23	-1/3
34	38	33	24	
40	39	34	25	0
42	40	35	26	
43	41	40	27	+1/3
43	45	42	28	
45	49	43	29	+2/3
53	50	44	30	
54	51	45	31	
55	52	48	32	+1
63	58	54	33	
66	60	55	34	+1 1/3
67	60	56	35	
68	62	57	36	
77	69	66	37	+1 2/3
79	70	68	38	
80	71	69	39	+2
83	73	70	40	
90	78	72	41	+2 1/3
92	80	78	42	
92	81	79	43	+2 2/3
93	82	80	44	
94	85	81	45	+3

5600				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.04	0.04	0.04	13	-3
0.06	0.06	0.06	14	-2 2/3
0.07	0.07	0.07	15	-2 1/3
0.09	0.09	0.09	16	-2
0.11	0.11	0.12	17	-1 2/3
0.12	0.13	0.14	18	-1 1/3
0.14	0.15	0.16	19	-1
0.16	0.17	0.19	20	-2/3
0.18	0.20	0.21	21	-1/3
0.21	0.22	0.24	22	0
0.23	0.24	0.26	23	+1/3
0.25	0.26	0.29	24	+2/3
0.27	0.28	0.32	25	+1
0.30	0.31	0.34	26	+1 1/3
0.32	0.33	0.37	27	+1 2/3
0.34	0.35	0.40	28	+2
0.37	0.37	0.42	29	+2 1/3
0.39	0.40	0.45	30	+2 2/3
0.42	0.42	0.47	31	+3
0.44	0.44	0.50	32	
0.47	0.46	0.52	33	
0.49	0.48	0.55	34	
0.51	0.50	0.57	35	
0.54	0.52	0.59	36	
0.56	0.54	0.61	37	
0.59	0.56	0.63	38	
0.61	0.57	0.65	39	
0.63	0.59	0.67	40	

5600				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
6	6	5	13	-3
8	8	8	14	-2 2/3
10	11	11	15	-2 1/3
13	13	14	16	-2
15	16	17	17	-1 2/3
18	19	20	18	-1 1/3
21	22	23	19	-1
23	25	27	20	-2/3
26	28	30	21	-1/3
29	31	34	22	0
33	34	38	23	+1/3
36	37	42	24	+2/3
39	41	45	25	+1
42	44	49	26	+1 1/3
46	47	53	27	+1 2/3
49	50	57	28	+2
53	54	60	29	+2 1/3
56	57	64	30	+2 2/3
60	60	68	31	+3
63	63	71	32	
67	66	75	33	
70	69	78	34	
73	71	81	35	
77	74	84	36	
80	77	87	37	
84	80	90	38	
87	82	93	39	
90	84	96	40	

5620/7620				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.04	0.04	0.05	13	-3
0.05	0.05	0.06	14	-2 2/3
0.07	0.07	0.07	15	-2 1/3
0.08	0.08	0.09	16	-2
0.10	0.10	0.11	17	-1 2/3
0.12	0.11	0.13	18	
0.14	0.13	0.15	19	-1 1/3
0.16	0.14	0.17	20	
0.18	0.16	0.19	21	-1
0.20	0.18	0.21	22	-2/3
0.22	0.20	0.23	23	-1/3
0.25	0.22	0.26	24	
0.27	0.24	0.28	25	0
0.29	0.26	0.30	26	+1/3
0.32	0.28	0.33	27	
0.35	0.30	0.35	28	+2/3
0.37	0.32	0.38	29	
0.40	0.34	0.40	30	+1
0.42	0.37	0.43	31	+1 1/3
0.45	0.39	0.45	32	
0.47	0.41	0.47	33	+1 2/3
0.50	0.43	0.50	34	
0.52	0.45	0.52	35	+2
0.54	0.47	0.54	36	+2 1/3
0.57	0.49	0.57	37	
0.59	0.51	0.59	38	+2 2/3
0.61	0.53	0.61	39	
0.63	0.55	0.63	40	+3

5620/7620				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
5	6	6	13	-3
7	8	8	14	-2 2/3
9	9	11	15	-2 1/3
12	11	13	16	-2
14	14	16	17	-1 2/3
17	16	18	18	
19	18	21	19	-1 1/3
22	21	24	20	
25	23	27	21	-1
29	26	30	22	-2/3
32	29	33	23	-1/3
35	31	37	24	
39	34	40	25	0
42	37	43	26	+1/3
46	40	47	27	
49	43	50	28	+2/3
53	46	54	29	
57	49	57	30	+1
60	52	61	31	+1 1/3
64	55	64	32	+1 2/3
67	58	68	33	
71	61	71	34	+2
74	64	74	35	
78	67	78	36	+2 1/3
81	70	81	37	
84	73	84	38	+2 2/3
87	76	87	39	
89	79	90	40	+3

5247/7247				
Red Volts	Green Volts	Blue Volts	Transfer Points	Exposure (Stop)
0.00	0.01	0.02	3	-3
0.01	0.02	0.03	4	-3
0.01	0.02	0.04	5	-2 2/3
0.02	0.03	0.04	6	-2 2/3
0.03	0.04	0.05	7	-2 1/3
0.03	0.05	0.06	8	-2 1/3
0.04	0.05	0.07	9	-2
0.05	0.06	0.08	10	-2
0.06	0.07	0.09	11	-2
0.07	0.08	0.09	12	-2
0.08	0.09	0.10	13	-1 2/3
0.09	0.10	0.11	14	-1 2/3
0.10	0.11	0.12	15	-1 2/3
0.11	0.12	0.13	16	-1 1/3
0.12	0.13	0.14	17	-1 1/3
0.14	0.14	0.15	18	-1
0.15	0.15	0.16	19	-1
0.17	0.17	0.17	20	-2/3
0.18	0.18	0.19	21	-2/3
0.20	0.19	0.20	22	-1/3
0.21	0.20	0.21	23	-1/3
0.23	0.21	0.22	24	-1/3
0.25	0.23	0.24	25	0
0.27	0.24	0.25	26	0
0.28	0.25	0.27	27	+1/3
0.30	0.27	0.28	28	+1/3
0.32	0.28	0.30	29	+2/3
0.34	0.29	0.31	30	+2/3
0.36	0.31	0.33	31	+2/3
0.38	0.32	0.34	32	+1
0.40	0.34	0.36	33	+1
0.43	0.35	0.38	34	+1 1/3
0.45	0.37	0.40	35	+1 1/3
0.47	0.39	0.41	36	+1 2/3
0.49	0.41	0.43	37	+1 2/3
0.51	0.42	0.45	38	+1 2/3
0.53	0.44	0.47	39	+2
0.56	0.46	0.48	40	+2
0.58	0.48	0.50	41	+2 1/3
0.60	0.50	0.52	42	+2 1/3
0.62	0.52	0.53	43	+2 2/3
0.64	0.55	0.55	44	+2 2/3
0.66	0.57	0.57	45	+2 2/3
0.68	0.59	0.58	46	+3

5247/7247				
Red IRE	Green IRE	Blue IRE	Transfer Points	Exposure (Stop)
0	2	3	3	-3
1	2	4	4	-3
2	3	5	5	-2 2/3
3	4	6	6	-2 2/3
4	5	7	7	-2 2/3
5	6	9	8	-2 1/3
6	8	10	9	-2 1/3
7	9	11	10	-2
8	10	12	11	-2
10	11	13	12	-2
11	13	15	13	-1 2/3
13	14	16	14	-1 2/3
14	16	17	15	-1 2/3
16	17	19	16	-1 1/3
18	19	20	17	-1 1/3
20	20	22	18	-1
22	22	23	19	-1
24	24	25	20	-2/3
26	25	27	21	-2/3
28	27	28	22	-1/3
30	29	30	23	-1/3
33	31	32	24	-1/3
35	32	34	25	0
38	34	36	26	0
41	36	38	27	+1/3
43	38	40	28	+1/3
46	40	42	29	+2/3
49	42	45	30	+2/3
52	44	47	31	+2/3
55	46	49	32	+1
58	48	52	33	+1
61	51	54	34	+1 1/3
64	53	57	35	+1 1/3
67	55	59	36	+1 2/3
70	58	61	37	+1 2/3
73	60	64	38	+1 2/3
76	63	66	39	+2
79	66	69	40	+2
83	69	71	41	+2 1/3
86	72	74	42	+2 1/3
89	75	76	43	+2 2/3
92	78	79	44	+2 2/3
94	81	81	45	+2 2/3
97	85	83	46	+3

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