TI0265 Revised 3-99

EASTMAN Fine Grain Duplicating Positive Film 5366,7366
KODAK Fine Grain Duplicating Positive Film 2365
KODAK Fine Grain Duplicating Positive Film 2366

1) Description

KODAK Fine Grain Duplicating Positive Film 2365 (ESTAR Gray Base), EASTMAN Fine Grain Duplicating Positive Film 5366,7366, and KODAK Fine Grain Duplicating Positive Film 2366 (ESTAR Clear Base) are low- speed duplicating films intended for making master positives from black-and-white camera negatives which, when printed onto EASTMAN Fine Grain Duplicating Panchromatic Negative Film 5234 and 7234, produce duplicate negatives that are only distinguishable from the originals by skilled observers. These blue-sensitive black-and-white films have very high resolution and incorporates a yellow dye, which is removed during processing, to provide very high acutance.

2) Base

5366,7366 Film has a clear acetate safety base, 2365 Film has a gray ESTAR safety base, and the 2366 Film has a clear ESTAR safety base. The back side of the base contains an anti-static layer with a carnauba wax lubricant.

3) Darkroom Recommendations

Use a KODAK OC Safelight Filter / greenish-yellow, with a 15-watt bulb, no closer to the film than 1.2 metres (4 feet) if times do not exceed 1 minute.

4) Storage

Store unexposed film at 55°F (13°C) or lower. For extended storage, store it at 0°F (-18°C) or below. Process exposed film promptly. Store processed film at 70 F (21 C) or lower at a relative humidity of 40 to 50 percent for normal commercial storage; for long-term storage, store it at 35 to 50°F (2 to 10°C) at 15 to 30% relative humidity. For more information on long-term storage, see KODAK Publications No. H-1, EASTMAN Professional Motion Picture Films, and No. H-23, The Book of Film Care.

5) Exposure

For laboratories with subtractive printers, such as a Bell and Howell Model D Printer, these recommendations should be helpful as a starting point. Use a 500-watt tungsten lamp operating with a diffuser at a lamp setting of 75 volts. With a printer speed of 90 feet per minute and a diaphragm setting of 15, satisfactory master positives should be produced from original negatives of average density. (The maximum density of the negative image should produce a density of about 0.6 to 0.8 in the master positive, i.e., just above the lower end of the straight-line portion of the characteristic curve.)

6) Recommended Control Gamma

2365, 2366, 5366, 7366 Film should be developed to a recommended control gamma of 1.20 to 1.60 (Status M Densitometry with a blue filter).

7) Processing

The following process recommendations should be used as starting points for a typical continuous-immersion processing machine using formulas presented in KODAK Publication No.H-24.15, Manual for Processing EASTMAN Motion Picture Films, Module 15. The processing times may require modification for a particular machine.

NOTICE! Observe precautionary information on product labels and on the Material Safety Data Sheets.

Processing Step	Temperature	Time	Replenishment Rate (mL per 100 min)	
			35 mm	16 mm
KODAK Developer D-96 [1]	70 +-1/2°F (21 +-0.3°C)	[2]	1,250 (D-96R)	625 (D-96R)
Stop Rinse [3]	70 +-2°F (21 +-1°C)	50 sec	12,000	6,000
KODAK Fixing Bath F-5 [1]	70 +-2°F (21 +-1°C)	6 min	850	425
Wash (counter - current)	70 +-2°F (21 +-1°C)	10 min	12,000	6,000
Dry	95°F(35°C)	[4]		

[1] Agitation in the developer and fixing bath should be by recirculation through submerged spray jets that impinge on the film strands.

[2] Develop to recommended control gamma of 1.2 to 1.6.

[3] Countercurrent flow of fixer-laden water overflow from the wash tank, pH about 6.

[4] Many factors affect the drying: air temperature, relative humidity (RH); volume, rate and distribution of the air flow; final squeegeeing, etc.

In a conventional convection-type drying cabinet with air at about 95°F (35°C) and 40 to 50 percent RH, drying will take 15 to 20 minutes. With an impingement-type drying cabinet, however, with a higher temperature and lower RH, drying time is greatly reduced. With either type of dryer, the film should be dry without tackiness 1/2 to 2/3 of the way through. Upon cooling to room temperature after leaving the dryer, the film should be in equilibrium with the room air at approximately 50 percent RH.

8) Image Structure

The modulation-transfer curves, the diffuse rms granularity, and the resolving-power data were generated from samples of 5366 Film exposed with tungsten light and processed as recommended in Process D-96 at 70°F (21°C) to the recommended control gamma. For more information on image-structure characteristics, see KODAK Publication No H-1, EASTMAN Professional Motion Picture Films.

Diffuse rms Granularity: [2]

rms Granularity : 9

[2]Read at a net diffuse visual density of 1.0, using a 48-micrometre aperture.

Resolving Power: [3]

ISO RPL	100 lines/mm	(TOC 1.6:1)
ISO RP	200 lines/mm	(TOC 1000:1)

9) Available Roll Lengths

For information on film roll lengths, check Kodak's Professional Motion Imaging Price Catalog or see a Kodak sales representative in your country.

10) Graphs[4]

MTF

A) (3-98)

NOTE: These photographic modulation-transfer values were determined by using a method similar to the one described in ANSI Standard PH2.39-1977(R1992). The film was exposed with the specified illuminant to spatially varying sinusoidal test patterns having an aerial image modulation of a nominal 35 percent at the image plane with processing as indicated. In most cases, the photographic modulation-transfer values are influenced by development-adjacency effects and are not equivalent to the true optical modulation-transfer curve of the emulsion layer in the particular photographic product.

Characteristic

B) 2366, 5366, and 7366 Film (3-98)

Spectral Sensitivity

C) (3-98)

Net Fog

D) (3-98)

Gamma

E) (3-98)

Characteristic

F) 2365 Film (3-98)

NOTE: The Kodak materials described in this publication for use with KODAK Fine Grain Duplicating Positive Film 2365, EASTMAN Fine Grain Duplicating Positive Film 5366, 7366, and KODAK Fine Grain Duplicating Positive Film 2366 are available from dealers who supply Kodak products. You can use other materials, but you may not obtain similar results.

NOTE: The contents of this publication are subject to change without notice.

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[3]Determined according to a method similar to the one described in ISO 6328-1982, Photography—Photographic Materials-Determination of ISO Resolving Power.

[4]NOTICE: While the data presented are typical of production coatings, they do not represent standards that must be met by Kodak. Varying storage, exposure, and processing conditions will affect results. The company reserves the right to change and improve product characteristics at any time.

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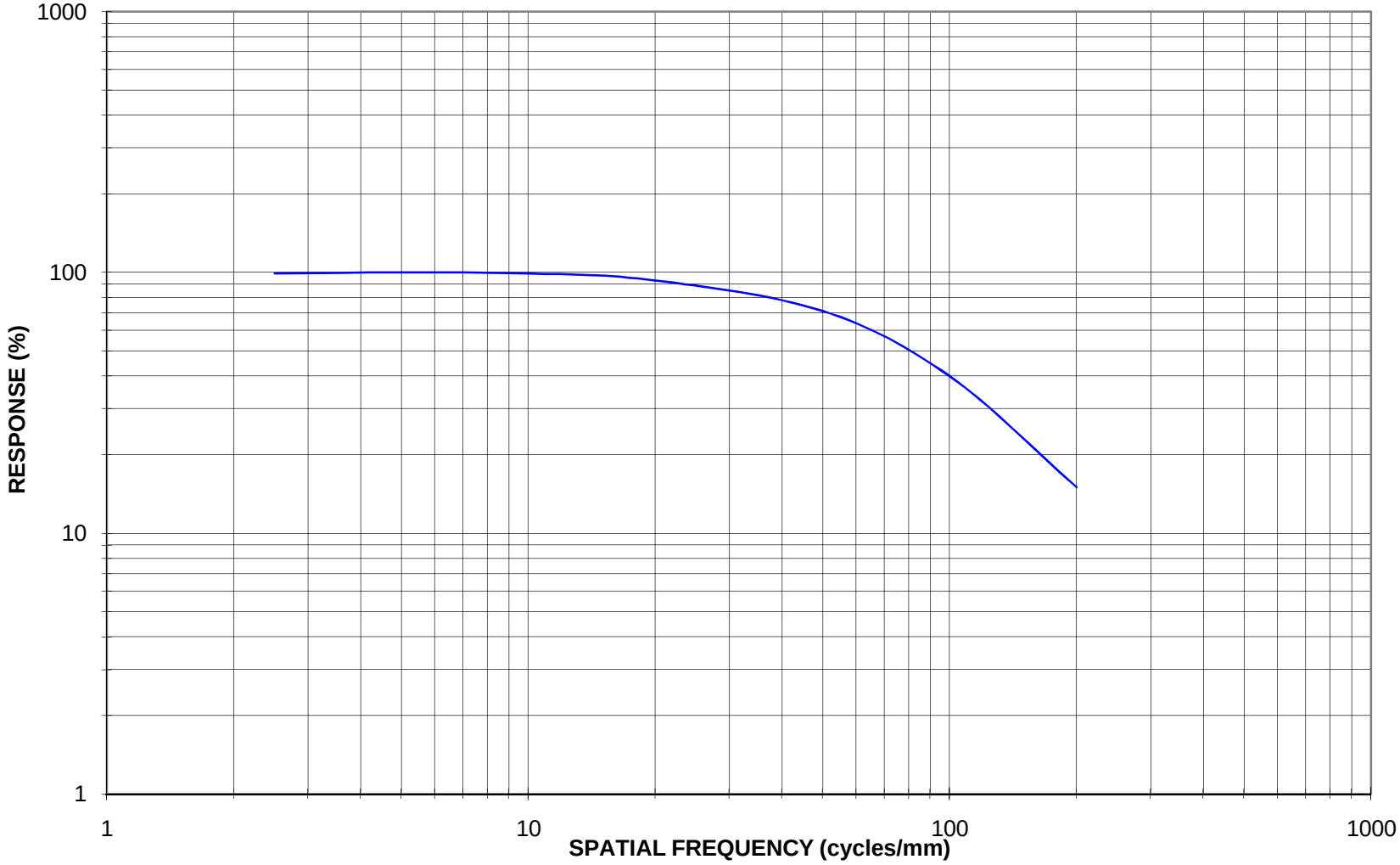
Professional Motion Imaging
EASTMAN KODAK COMPANY - Rochester, NY 14650

End of Data Sheet

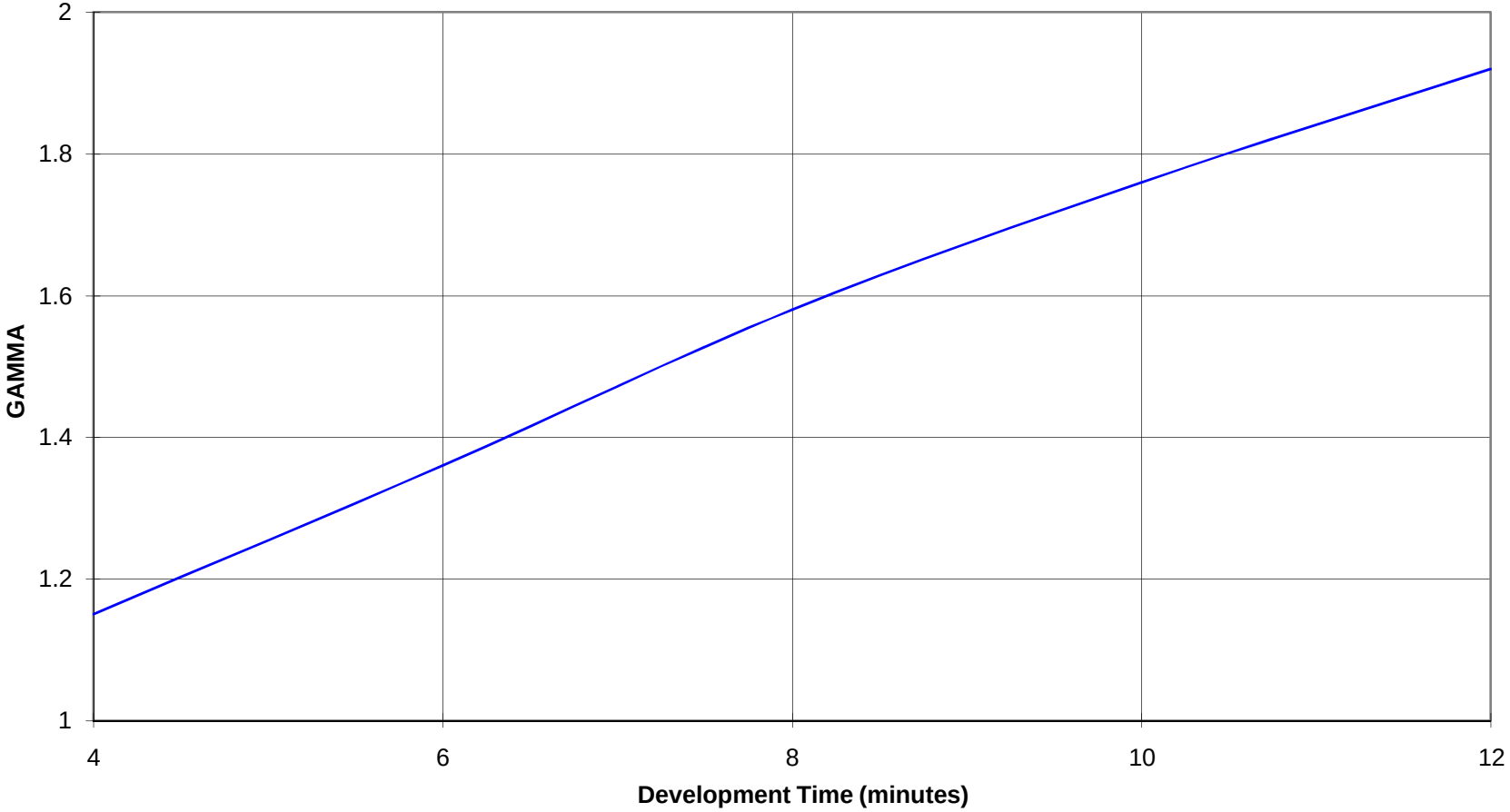
TI0265A 3-98
MTF, For Publication

KODAK Fine Grain Duplicating Positive Film 2365
EASTMAN Fine Grain Duplicating Positive Film 5366,7366
KODAK Fine Grain Duplicating Positive Film 2366
Tungsten; KODAK Developer D-96 at 70F (21 C) to recommended control gamma;
Diffuse visual



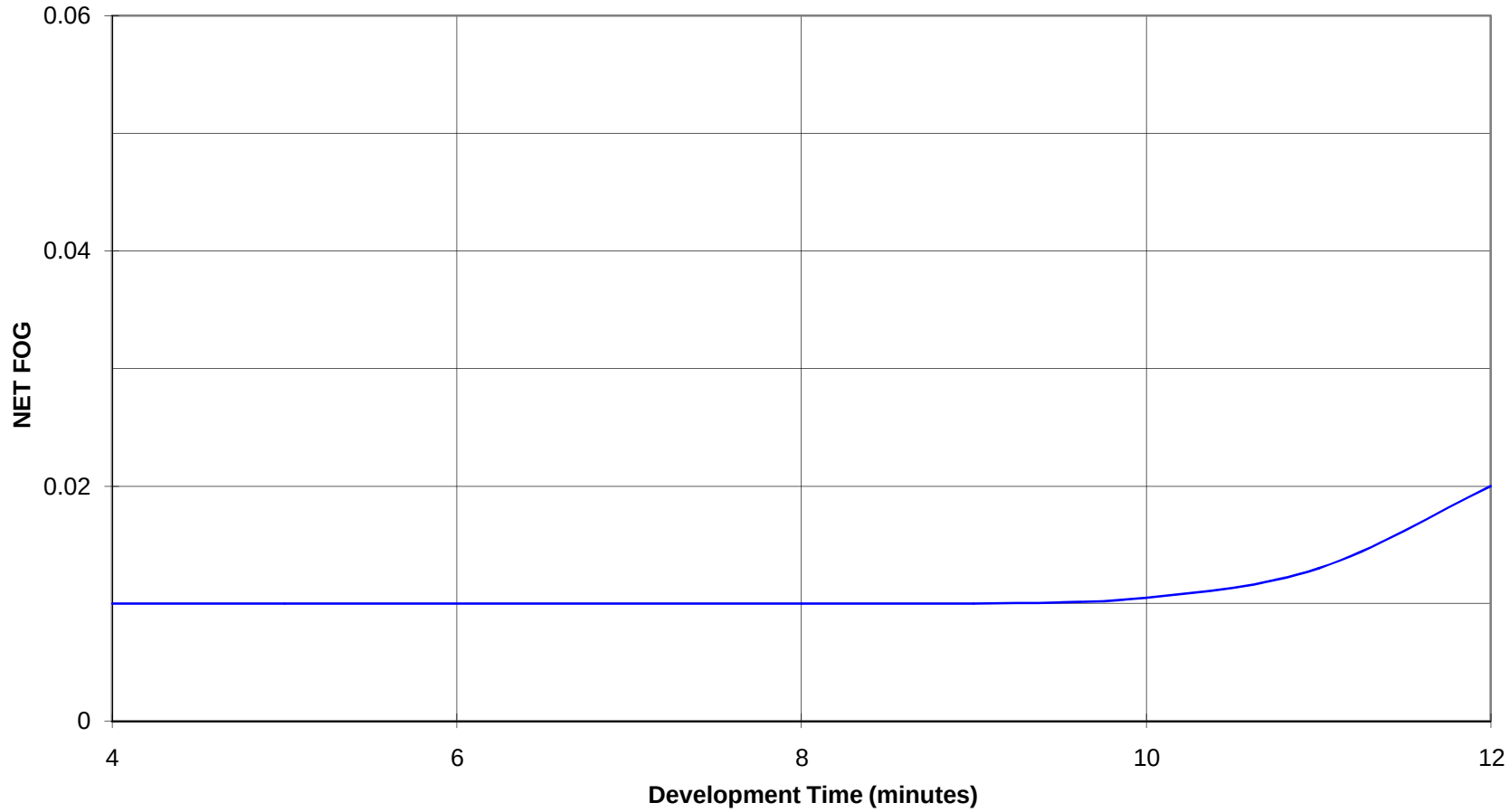
TI0265E 3-98
GAMMA, For Publication

KODAK Fine Grain Duplicating Positive Film 2365
EASTMAN Fine Grain Duplicating Positive Film 5366,7366
KODAK Fine Grain Duplicating Positive Film 2366
KODAK Developer D-96, 70F (21C)



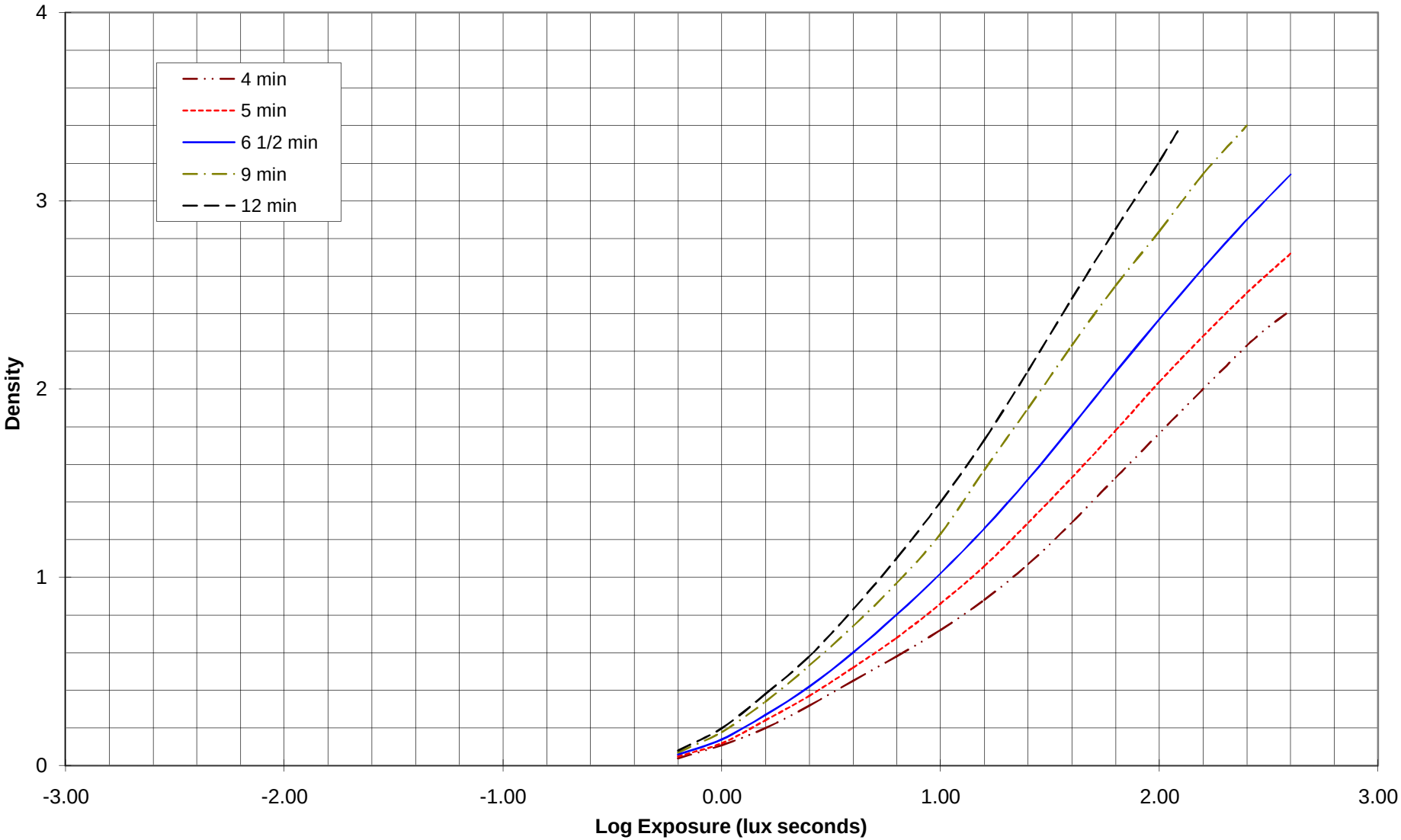
TI0265D 3-98
NET FOG, For Publication

KODAK Fine Grain Duplicating Positive Film 2365
EASTMAN Fine Grain Duplicating Positive Film 5366,7366
KODAK Fine Grain Duplicating Positive Film 2366
KODAK Developer D-96, 70F (21C)



TI0265B 3-98
CHARACTERISTIC, For Publication

EASTMAN Fine Grain Duplicating Positive Film 5366,7366
KODAK Fine Grain Duplicating Positive Film 2366
Tungsten 1/25 sec; KODAK Developer D-96 at 70F (21C); Diffuse visual



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TI0265C 3-98
SPECTRAL SENSITIVITY, For Publication

KODAK Fine Grain Duplicating Positive Film 2365
EASTMAN Fine Grain Duplicating Positive Film 5366, 7366
KODAK Fine Grain Duplicating Positive Film 2366
Effective Exp 1.4 sec; KODAK Dev. D-96 at 70F (21C) to recommended gamma;
Diffuse visual