Carestream

TECHNICAL INFORMATION DATA SHEET

TI1790 Issued 2011-04

KODAK T-MAT G/RA Film Description

KODAK T-MAT G/RA Film is a high-speed, ortho-sensitive medical x-ray film for use with green emitting intensifying screens. It is coated on a blue, approximately 0.2 mm (7-mil) polyester support that has a base density of approximately 0.19, with improved static protection. KODAK T-MAT G/RA Film features T-grain emulsion technology that reduces the amount of screen-light crossover, resulting in improved image sharpness. It is processable in existing automated processing cycles as well as Rapid Access process cycles.

1) Safelight

Use a KODAK GBX-2 Safelight Filter with a frosted 15-watt bulb located at least 1.22 metres (48 inches) from the film or a KODAK LED Safelight (see GRAPHS).

Latensification: Safelight exposure after primary x-ray exposure.

Hypersensitization: Safelight exposure before primary x-ray exposure.

2) Storage and Handling

Storage -

Unexposed:	10–24 °C (50–75 °F), 30–50 %RH, properly shielded from x-rays, gamma rays, or penetrating radiation.
Exposed:	Keep cool, dry, and properly shielded from penetrating radiation. Process as soon as possible.
Processed:	16–27 °C (60–80 °F), 30–50 %RH

Handling -

Hands must be clean, dry and free of lotions, etc. Film should be handled carefully by the edges to avoid physical strains such as pressure, creasing, or buckling.

3) Sensitometric Parameters

Speed:	Measured at a density of 1.00 above gross fog.
Contrast:	Measured as slope of the straight line portion of the sensitometric curve, and computed as the value for the rise for any three consecutive steps.
Gross Fog:	Density of film base plus processing fog.

4) Process Variations

Changes to speed, contrast, and fog as a result of temperature variation from normal are included in GRAPHS Section.

5) Intermix

These films can be processed with intermixes of common medical x-ray films.

Variations of bromide and iodide ions in KODAK RP X-OMAT Developer cause sensitometric speed effects that are significantly different for T-MAT Films than for conventional films; included in GRAPH Section.

6) Automated Processing

See Service Bulletin 30 for processing recommendations. In general, processing is recommended in KODAK X-OMAT and RP X-OMAT Processors using KODAK RP X-OMAT, KODAK X-OMAT EX II, KODAK X-OMAT LE+ Developer or KODAK Medical X-Ray Developer.

Notice: Observe precautionary information on product labels and on the Material Safety Data Sheets.

7) Emergency Manual Processing

(Not recommended for regular use, but can be used when automated processor fails)

Solution/Step	Temperature	Time	Agitation
KODAK RP X-OMAT Developer working solution plus KODAK RP X-OMAT Developer Starter (25 ml/l or 3 fl oz/gal)	26.5 °C (80 °F)	1 minute	No agitation. Tap hanger immediately after immersion to remove film surface air bubbles.
KODAK Indicator Stop Bath OR Running Water Rinse	26.5 °C (80 °F)	20 seconds	Continuous, moderate
KODAK RP X-OMAT LO Fixer and Replenisher	26.5 °C (80 °F)	1 minute	Vigorous at start
Running water wash[1] (8 volume changes/hour)	26.5 °C (80 °F)	5 minutes	—-
Dry	49 °C (120 °F)	—-	—-

[1] KODAK PHOTO-FLO Solution may be used after washing to minimize water spots and drying marks.

8) Manual Processing

Rack and Tank

Solution/Step	Temperature	Time	Agitation
KODAK GBX Developer and Replenisher	22 °C (72 °F) 26.5 °C (80 °F)	7 minutes 4 minutes	Tap sheet film hangers lightly on side of tank immediately after immersion to dislodge air bubbles.
NOTE: DO NOT agitate films during remainder of development step. Remove film and hanger 5 seconds before end of development. DO NOT allow films to drain excess developer back into the developer tank.			
KODAK Indicator Stop Bath OR Running Water Rinse	16–30 °C (60–85 °F)	30 seconds	Immerse hanger rapidly; agitate continuously.
KODAK GBX Fixer and Replenisher OR KODAK RP X-OMAT LO Fixer and Replenisher	16–30 °C (60–85 °F)	2–4 minutes	Intermittent, 5 seconds every 30 seconds
Running Water Wash[1] (about 8 volume changes/hour)	16–30 °C (60–85 °F)	5 minutes	—-
Dry in a dust-free area at room temperature or a suitable drying cabinet. Temperature not to exceed 49 °C (120 °F).			

[1] KODAK PHOTO-FLO Solution may be used after washing to minimize water spots and drying marks.

9) Graphs[1]

Characteristic:

- **A)** KODAK RP X-OMAT Chemicals (2011-04)
- B) KODAK GBX Developer (2011-01)
- **C)** KODAK RP X-OMAT Developer Temperature Series (2011-01)
- **D)** KODAK X-OMAT EX II Chemicals (2011-04)
- **E)** KODAK Medical X-ray Chemicals (2011-04)

Process Variations from Normal Processing Temperature:

- **F)** Speed (2011-01)
- **G)** Contrast (2011-01)
- **H)** Fog (2011-01)

[2]NOTICE: The data in this publication represent product tested under the conditions of exposure and processing specified. They are representative of production coatings, and therefore do not apply to a particular box or roll of photographic material. They do not represent standards or specifications that must be met by Carestream Health, Inc. The company reserves the right to change and improve product characteristics at any time.

Safelight Sensitivity:

I) GBX-2 Safelight (2011-02)
J) KODAK LED Safelight (2011-02)

Bromide Effects

K) (2011-03)

Note: The Kodak materials described in this publication for use with KODAK T-MAT G/RA Film are available from dealers who supply Kodak products. You can use other materials, but you may not obtain similar results.

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

Carestream Health, Inc. – Rochester, NY 14608

End of Data Sheet

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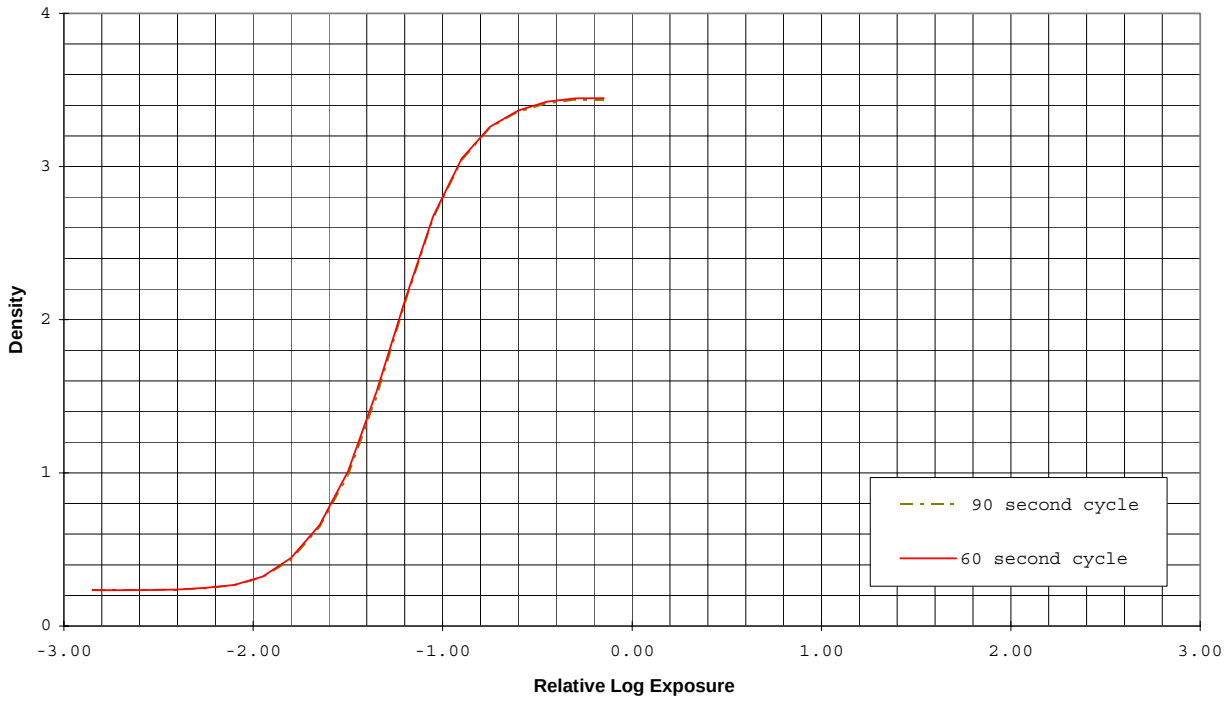
TI1790A 2011-04
CHARACTERISTIC, For Publication

KODAK T-MAT G/RA Film
Simulated Green Screen 1/50 second; KODAK RP X-OMAT Chemicals
KODAK X-OMAT 5000 RA Processor; Diffuse Visual Densitometry



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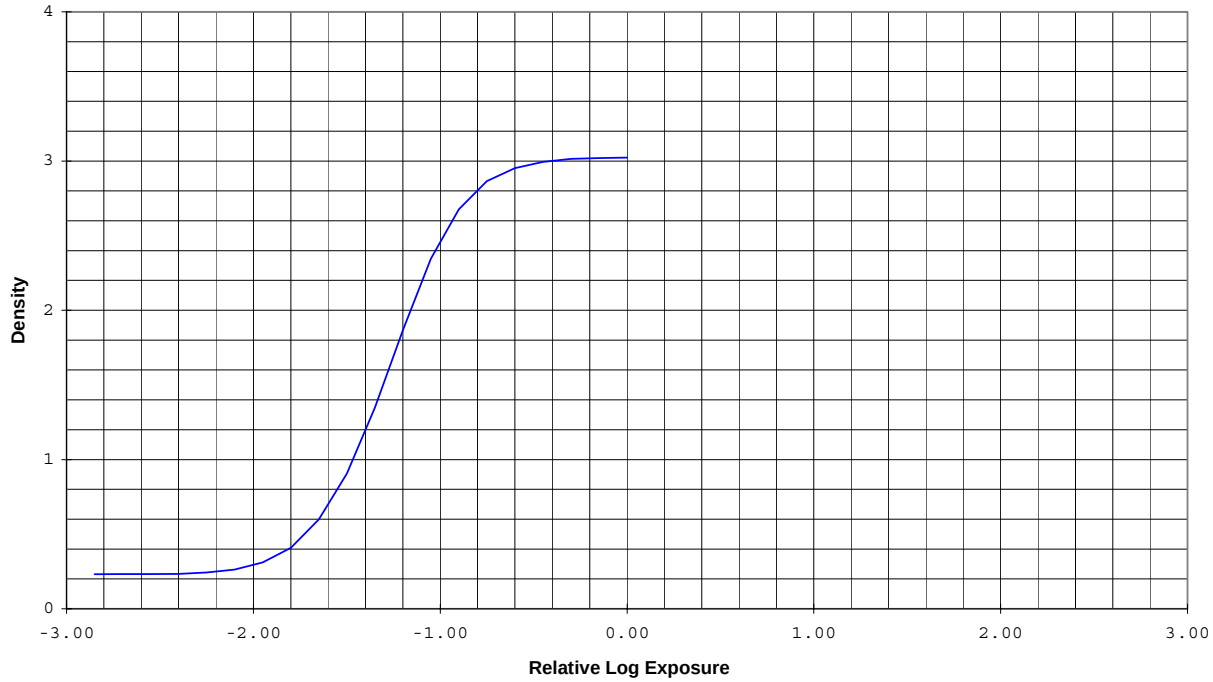
TI1790B 2011-01
CHARACTERISTIC, For Publication

KODAK T-MAT G/RA Film
1/50 second Simulated Green Screen Exposure
Seasoned KODAK GBX Developer and Replenisher, 5 minutes, 22 °C (72 °F) Manual Process;
Diffuse Visual Densitometry



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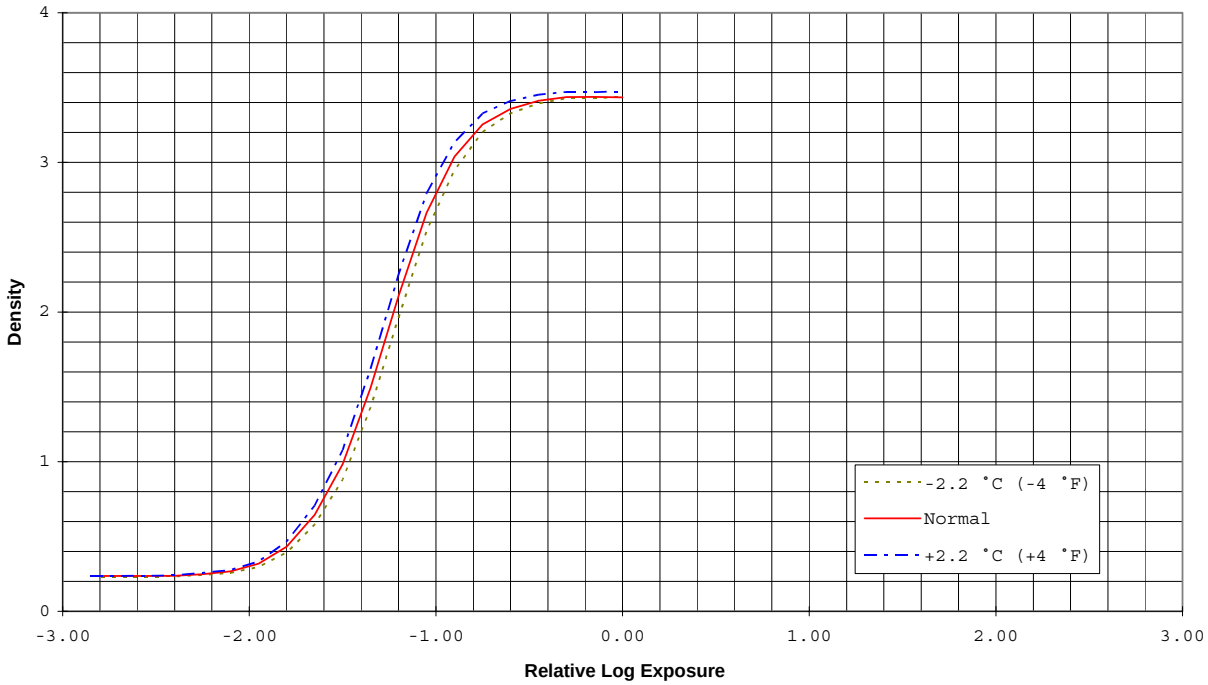
TI1790C 2011-01
CHARACTERISTIC, For Publication

KODAK T-MAT G/RA Film
Simulated Green Screen 1/50 second; KODAK RP X-OMAT Chemicals, 35 °C (95 °F)
KODAK X-OMAT 5000 RA Processor; Diffuse Visual Densitometry



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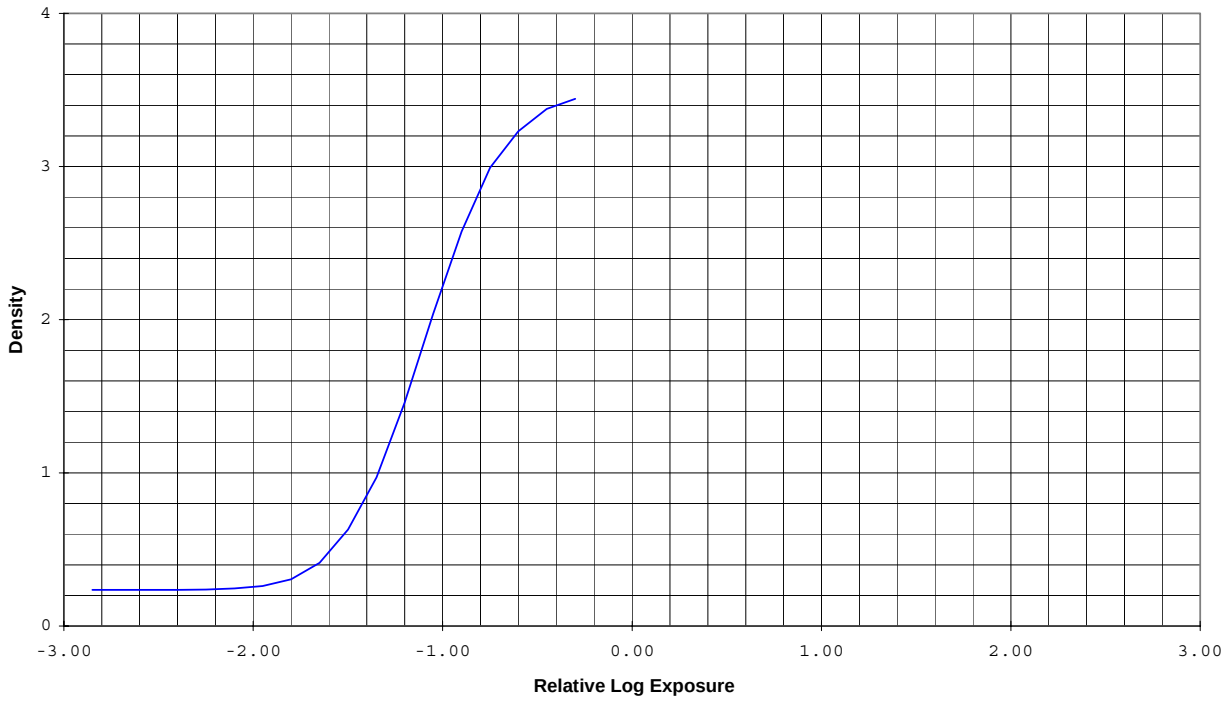
TI1790D 2011-04
CHARACTERISTIC, For Publication

KODAK T-MAT G/RA Film
Simulated Green Screen 1/50 second; KODAK X-OMAT EX II Chemicals
KODAK X-OMAT 5000 RA Processor; Diffuse Visual Densitometry



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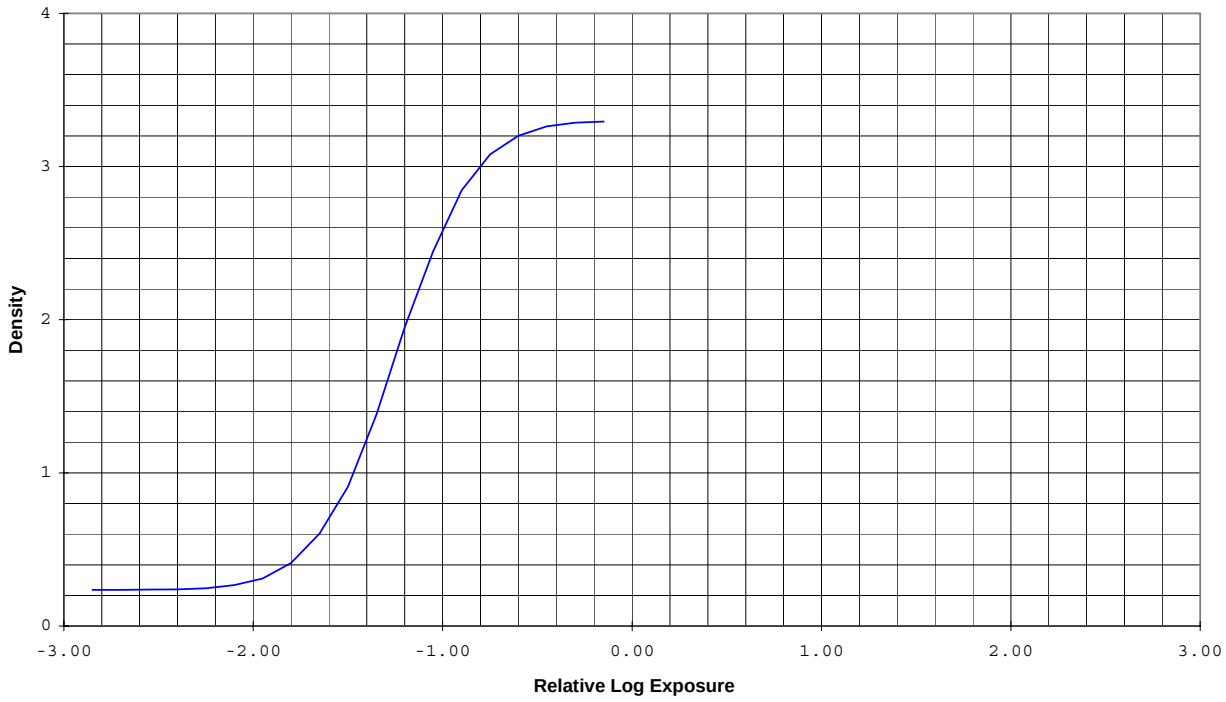
TI1790E 2011-04
CHARACTERISTIC, For Publication

KODAK T-MAT G/RA Film
Simulated Green Screen 1/50 second; KODAK Medical X-Ray Chemicals
KODAK Medical X-Ray Processor; Diffuse Visual Densitometry



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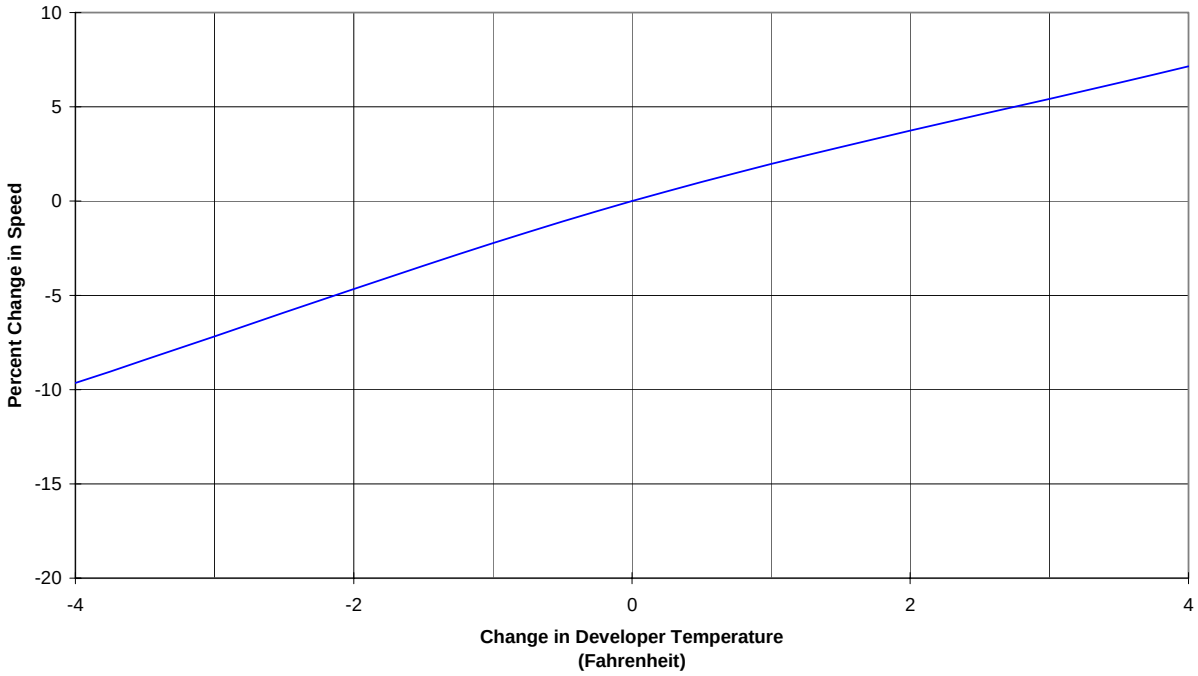
TI1790F 2011-01
TEMPERATURE VARIATION, For Publication

KODAK T-MAT G/RA Film
Percent Change in Relative Speed
KODAK RP X-OMAT Chemicals; KODAK X-OMAT 5000 RA Processor
(Reference: Normal Temp. = 0% Change)
(4 °F=2.2 °C)



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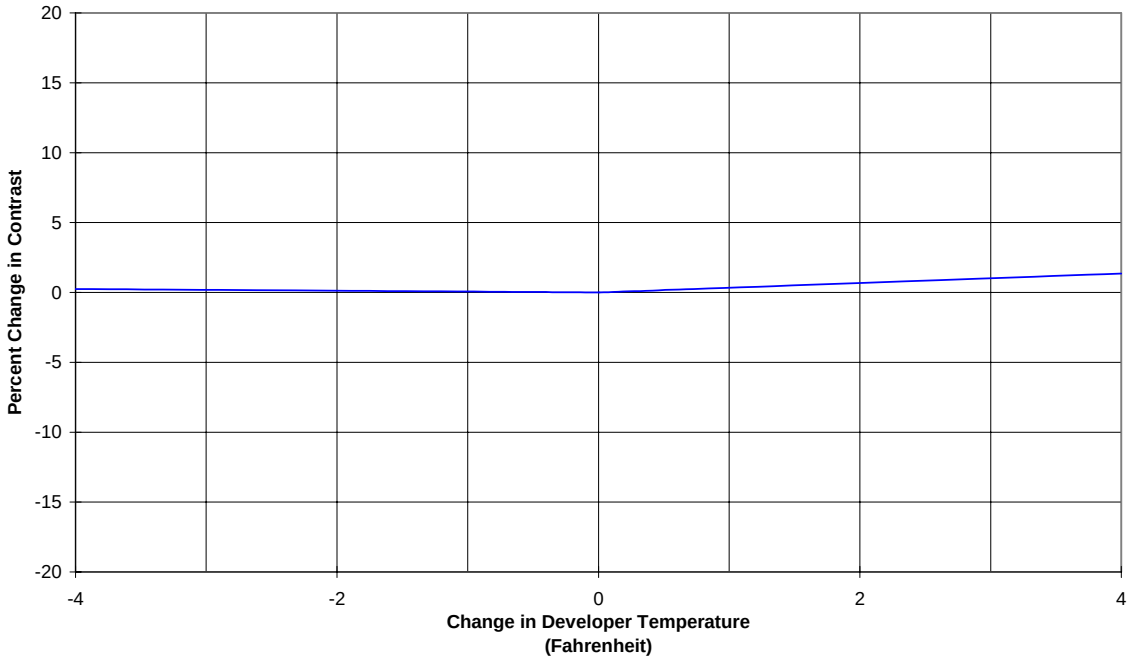
TI1790G 2011-01
TEMPERATURE VARIATION, For Publication

KODAK T- MAT G/RA Film
Percent Change in Contrast
KODAK RP X-OMAT Chemicals; KODAK X-OMAT 5000 RA Processor
(Reference: Normal Temp. = 0% Change); For Publication
(4 °F= 2.2 °C)



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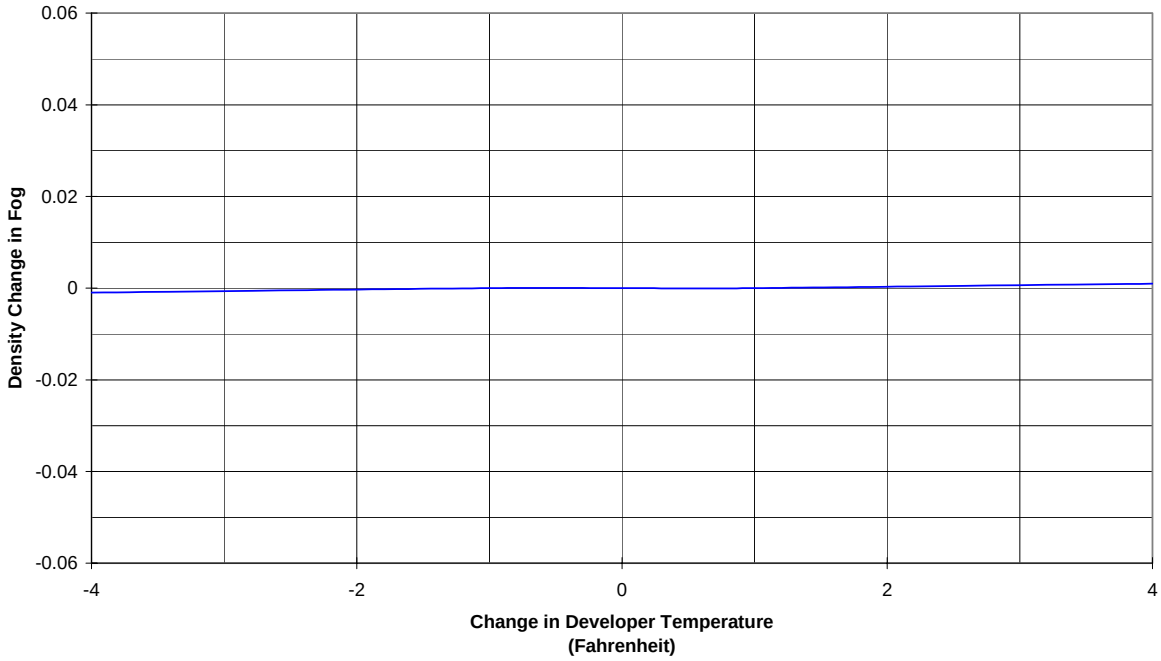
TI1790H 2011-01
TEMPERATURE VARIATION, For Publication

KODAK T-MAT G/RA Film
Density Change in Fog
KODAK RP X-OMAT Chemicals; KODAK X-OMAT 5000RA Processor
(Reference: Normal Temp. =0)
(4 °F=2.2 °C)



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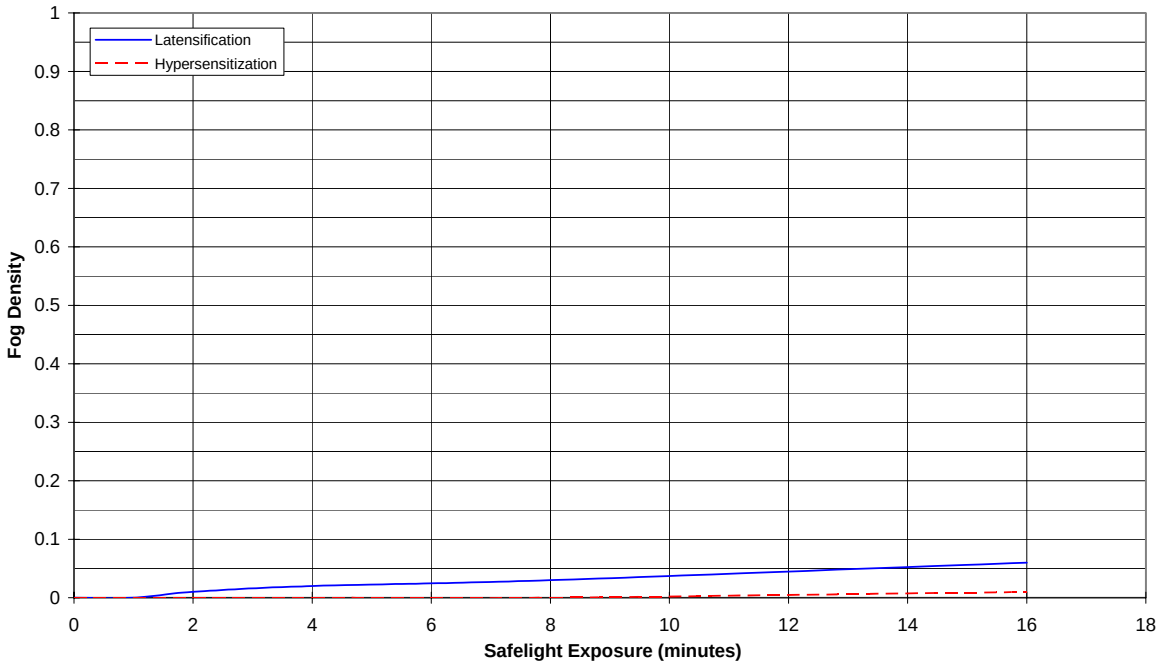
TI1790I 2011-02
SAFELIGHT SENSITIVITY, For Publication

KODAK T-MAT G/RA Film
KODAK GBX-2 Safelight Filter, 15-watt lamp, 1.22 metres (48 inches)
KODAK X-OMAT 5000 RA Processor; KODAK RP X-OMAT Chemicals, 35 °C (95 °F)
(Fog growth with increasing safelight exposure)



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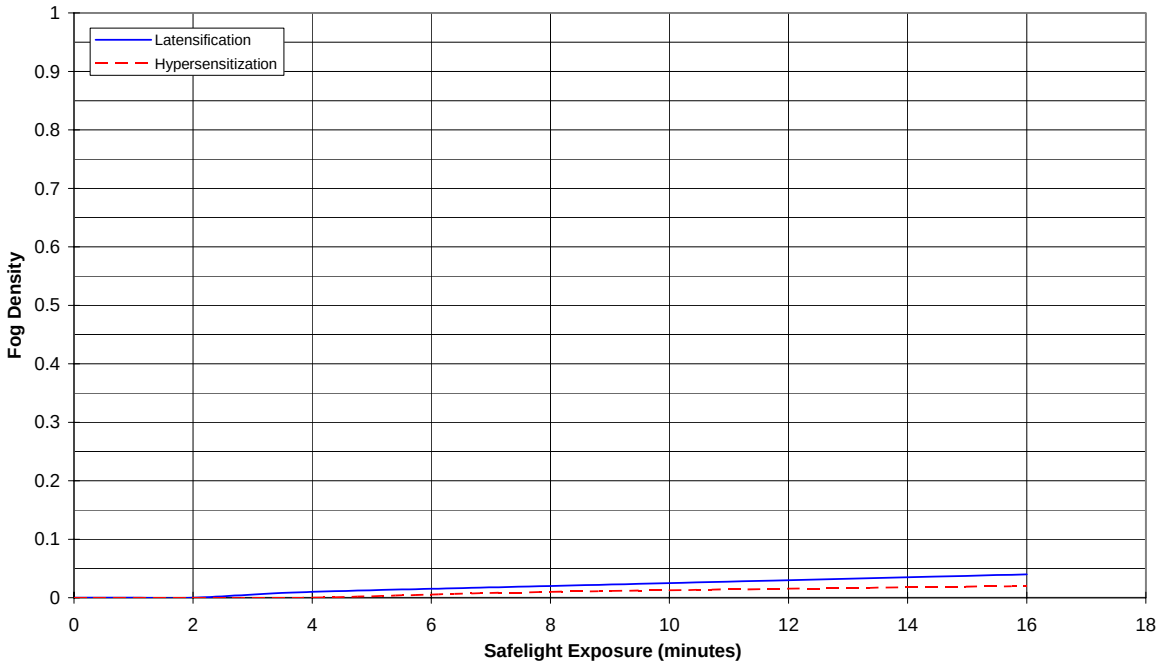
TI1790J 2011-02
SAFELIGHT SENSITIVITY, For Publication

KODAK T-MAT G/RA Film
KODAK LED Safelight, 1.22 metres (48 inches)
KODAK X-OMAT 5000 RA Processor; KODAK RP X-OMAT Chemicals, 35 °C (95 °F)
(Fog growth with increasing safelight exposure)



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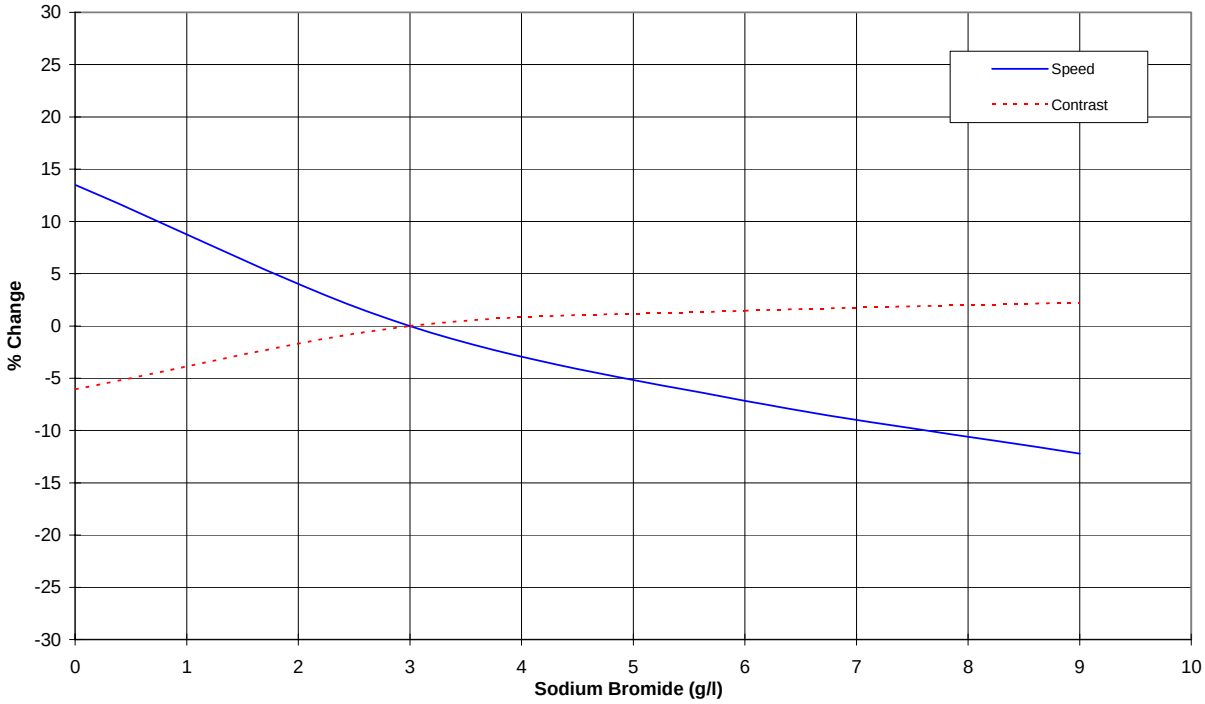
TI1790K 2011-03
BROMIDE EFFECTS, For Publication

KODAK T-MAT G/RA Film
KODAK X-OMAT 5000 RA Processor
KODAK RP X-OMAT Chemicals, 35 °C (95 °F)
Normal Level is 3.5 g/l



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