

## Drop out colour

### 1. Outline

The following data is the result of evaluating colour dropout when either a green lamp or a red lamp is installed in the M3099A/G/EH/GH/EX/GX, M3097E/G, M3096E+/G M3096EX/GX and M3093DE/DG image scanners.

### 2. Evaluation conditions

Colour sample: Pantone colour - 1066 colours (on white paper)

Content: Colour samples are checked for dropout.

Models: M3093DE/DG  
M3093EX/GX  
M3096E+/G  
M3096EX/GX  
M3097E/G  
M3099A/G/EH/GH/EX/GX

Lamp: Lamp-G54  
Red lamp-R66  
Red lamp-R61(for M3093EX/GX/DE/DG)

Condition:	M3093DE/DG	Flat bed(front side), ADF(back side), 200 dpi, A4, line mode
	M3093EX/GX	Flatbed, 200 dpi, A4, line mode
	M3096E+/G	Flatbed. 200 dpi, A4, line mode
	M3096EX/GX	Flatbed, 200 dpi, A4, line mode
	M3097E/G	Flatbed, 200 dpi, A4, line mode
	M3099A/G/EH/GH/EX/GX	ADF, 200 dpi, A4, line mode

Criteria: If scanning a colour gave an image with spot noise the colour was assumed not to have dropped out.

### 3. Result of evaluation

Table 1 is the result of using the standard lamp-G54 (540nm).

Table 2 lists dropout colours when using the red lamp-R66 (660nm) and red lamp-R61 (610nm).

Colour dropout differs slightly by model type.

The dropout colours in Table 1 and 2 are read at maximum scanner density\*. If a lower-density setting is used, colours other than in Table 1 and 2 may drop out.

Colour dropout shall be evaluated by the customer. The scanner contrast shall be set at maximum for the evaluation.

\*: Maximum scanner density

M3093DE/DG, M3093EX/GX, M3096EX/GX, M3097E, M3099A/G/EH/GH/EX/GX --- DARK  
M3096G, M3097G --- Threshold X'CO'

Note: There are no differences between M3093EX/GX and M3096EX/GX regarding the spectral characteristics of the lamp and the spectral sensitivity of the CCD sensor. Therefore we regard the dropout colours of the M3096EX/GX to be the same as the M3093EX/GX.

**Table 1**

Drop out colours for lamp-G54

OK: Dropped out (excluding colours with spot noise)

NG: Not dropped

\* : No data

Note: C of colour sample means coated paper.

U of colour sample means uncoated paper.

Colour sample no.	99	96E+/G	97E/G	96EX/GX	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
Proc. Yellow C	NG	OK	OK	*	NG	NG	NG
100 C	OK	OK	OK	*	OK	OK	OK
101 C	OK	OK	OK	*	OK	OK	OK
102 C	OK	OK	OK	*	NG	NG	NG
Yellow C	NG	OK	OK	*	NG	NG	NG
106 C	NG	OK	OK	*	OK	OK	NG
107 C	OK	OK	OK	*	NG	NG	NG
108 C	NG	OK	OK	*	NG	NG	NG
113 C	NG	OK	OK	*	NG	NG	NG
114 C	NG	OK	OK	*	NG	NG	NG
120 C	NG	OK	OK	*	NG	NG	NG
121 C	NG	OK	NG	*	NG	NG	NG
127 C	NG	OK	OK	*	NG	NG	NG
155 C	NG	OK	OK	*	NG	NG	NG
304 C	NG	OK	NG	*	NG	NG	NG
317 C	OK	OK	OK	*	NG	NG	NG
331 C	OK	OK	OK	*	NG	NG	NG
351 C	NG	OK	OK	*	NG	NG	NG
365 C	NG	OK	OK	*	NG	NG	NG
372 C	OK	OK	OK	*	NG	NG	NG
373 C	NG	OK	OK	*	NG	NG	NG
379 C	OK	OK	OK	*	NG	NG	NG
380 C	NG	OK	OK	*	NG	NG	NG
386 C	OK	OK	OK	*	OK	OK	OK
387 C	NG	OK	OK	*	NG	NG	NG
393 C	OK	OK	OK	*	OK	OK	OK

Colour sample no.	99	96E+/G	97E/G	96EX/GX	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
394 C	OK	OK	OK	*	NG	NG	OK
395 C	NG	OK	OK	*	NG	NG	NG
Warm Gray 1C	OK	OK	OK	*	NG	NG	NG
Cool Gray 1C	OK	OK	OK	*	OK	OK	OK
460 C	OK	OK	OK	*	NG	NG	NG
461 C	OK	OK	OK	*	OK	OK	OK
482 C	OK	NG	NG	*	NG	NG	NG
517 C	OK	NG	NG	*	NG	NG	NG
524 C	OK	NG	NG	*	NG	NG	NG
531 C	OK	NG	NG	*	NG	NG	NG
538 C	OK	NG	NG	*	NG	NG	NG
565 C	NG	OK	OK	*	NG	NG	NG
566 C	OK	OK	OK	*	NG	NG	NG
572 C	OK	NG	OK	*	NG	NG	NG
573 C	OK	OK	OK	*	OK	OK	OK
586 C	NG	NG	OK	*	NG	NG	NG
587 C	NG	OK	OK	*	OK	OK	OK
Proc.Yellow U	NG	OK	OK	OK	NG	NG	NG
100 U	OK	OK	OK	OK	OK	OK	OK
101 U	OK	OK	OK	OK	OK	OK	OK
102 U	OK	OK	OK	OK	OK	OK	OK
Yellow U	NG	OK	OK	OK	OK	OK	NG
106 U	NG	OK	OK	OK	NG	NG	NG
107 U	NG	NG	OK	OK	NG	NG	NG
113 U	NG	OK	OK	OK	NG	NG	NG
127 U	NG	OK	OK	OK	NG	NG	NG
317 U	NG	OK	OK	OK	NG	NG	NG
331 U	NG	NG	OK	OK	NG	NG	NG
351 U	NG	OK	OK	OK	NG	NG	NG
365 U	NG	NG	OK	OK	NG	NG	NG
372 U	NG	OK	OK	OK	NG	NG	NG
373 U	NG	NG	OK	OK	NG	NG	NG
379 U	OK	OK	OK	OK	OK	OK	NG
380 U	NG	OK	OK	OK	NG	NG	NG

<b>Colour sample no.</b>	<b>99</b>	<b>96E+/G</b>	<b>97E/G</b>	<b>96EX/GX</b>	<b>93EX/GX</b>	<b>93DE/DG (Front)</b>	<b>93DE/DG (Back)</b>
386 U	OK	OK	OK	OK	OK	OK	OK
387 U	NG	OK	OK	OK	NG	NG	NG
388 U	NG	NG	OK	OK	NG	NG	NG
393 U	OK	OK	OK	OK	OK	OK	OK
394 U	OK	OK	OK	OK	OK	OK	OK
395 U	NG	OK	OK	OK	NG	NG	NG
396 U	NG	NG	OK	OK	NG	NG	NG
Warm Gray 1U	OK	OK	OK	OK	NG	NG	NG
Cool Gray 1U	OK	OK	OK	OK	NG	NG	NG
461 U	NG	OK	OK	OK	NG	NG	NG
573 U	NG	OK	OK	OK	NG	NG	NG
580 U	OK	NG	NG	OK	NG	NG	NG
587 U	NG	OK	OK	OK	OK	OK	OK

**Table 2**

Drop out colours for

Red lamp-R66: M3099A,M3097E/G,M3096E+/G,M3096EX/GX

Red lamp-R61 M3093DE/DG, M3093EX/GX

OK: Dropped out (excluding colours with spot noise)

NG: Not dropped

\* : No data

Note: C of colour sample means coated paper

U of colour sample means uncoated paper

Data for M3096EX/GX is unavailable.

Colour sample no.	99	96E+/G	97E/G	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
021 C	OK	OK	OK	*	*	*
032 C	OK	OK	OK	*	*	*
Proc.Yellow C	OK	OK	OK	OK	OK	OK
Proc.Magenta C	NG	OK	OK	NG	NG	NG
100 C	OK	OK	OK	OK	OK	OK
101 C	OK	OK	OK	OK	OK	OK
102 C	OK	OK	OK	OK	OK	OK
Yellow C	OK	OK	OK	OK	OK	OK
106 C	OK	OK	OK	OK	OK	OK
107 C	OK	OK	OK	OK	OK	OK
108 C	OK	OK	OK	OK	OK	OK
109 C	OK	OK	OK	OK	OK	OK
113 C	OK	OK	OK	OK	OK	OK
114 C	OK	OK	OK	OK	OK	OK
115 C	OK	OK	OK	OK	OK	OK
116 C	OK	OK	OK	OK	OK	OK
120 C	OK	OK	OK	OK	OK	OK
121 C	OK	OK	OK	OK	OK	OK
122 C	OK	OK	OK	OK	OK	OK
123 C	OK	OK	OK	OK	OK	OK
127 C	OK	OK	OK	OK	OK	OK
128 C	OK	OK	OK	OK	OK	OK

Colour sample no.	99	96E+/G	97E/G	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
129 C	OK	OK	OK	OK	OK	OK
130 C	OK	OK	OK	OK	OK	OK
134 C	OK	OK	OK	OK	OK	OK
135 C	OK	OK	OK	OK	OK	OK
136 C	OK	OK	OK	OK	OK	OK
137 C	OK	OK	OK	OK	OK	OK
141 C	OK	OK	OK	OK	OK	OK
142 C	OK	OK	OK	OK	OK	OK
143 C	OK	OK	OK	OK	OK	OK
144 C	OK	OK	OK	OK	OK	NG
148 C	OK	OK	OK	OK	OK	OK
149 C	OK	OK	OK	OK	OK	OK
150 C	OK	OK	OK	OK	OK	OK
151 C	OK	OK	OK	OK	OK	OK
155 C	OK	OK	OK	OK	OK	OK
156 C	OK	OK	OK	OK	OK	OK
157 C	OK	OK	OK	OK	OK	NG
158 C	NG	OK	OK	NG	NG	NG
162 C	OK	OK	OK	OK	OK	OK
163 C	OK	OK	OK	OK	OK	OK
164 C	OK	OK	OK	OK	OK	OK
165 C	OK	OK	OK	OK	OK	OK
169 C	OK	OK	OK	OK	OK	OK
170 C	OK	OK	OK	OK	OK	OK
171 C	OK	OK	OK	OK	OK	OK
172 C	NG	OK	OK	OK	OK	NG
176 C	OK	OK	OK	OK	OK	OK
177 C	OK	OK	OK	OK	OK	OK
178 C	OK	OK	OK	OK	OK	OK
Warm Red C	OK	OK	OK	OK	OK	NG
182 C	OK	OK	OK	OK	OK	OK
183 C	OK	OK	OK	OK	OK	NG
184 C	OK	OK	OK	OK	OK	NG
185 C	NG	OK	OK	NG	NG	NG

Colour sample no.	99	96E+/G	97E/G	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
189 C	OK	OK	OK	OK	OK	OK
190 C	OK	OK	OK	OK	OK	NG
191 C	OK	OK	OK	NG	NG	NG
192 C	NG	OK	OK	NG	NG	NG
196 C	OK	OK	OK	OK	OK	OK
197 C	OK	OK	OK	OK	OK	NG
198 C	OK	OK	OK	NG	NG	NG
199 C	OK	OK	OK	NG	NG	NG
203 C	OK	OK	OK	OK	OK	NG
204 C	OK	OK	OK	NG	NG	NG
205 C	OK	OK	OK	NG	NG	NG
206 C	NG	OK	OK	NG	NG	NG
210 C	OK	OK	OK	OK	OK	NG
211 C	OK	OK	OK	OK	OK	NG
212 C	OK	OK	OK	NG	NG	NG
213 C	NG	OK	OK	NG	NG	NG
217 C	OK	OK	OK	OK	OK	OK
218 C	OK	OK	OK	NG	NG	NG
219 C	OK	OK	OK	NG	NG	NG
Rubine Red C	NG	OK	OK	NG	NG	NG
223 C	OK	OK	OK	OK	OK	NG
224 C	OK	OK	OK	NG	NG	NG
225 C	OK	OK	OK	NG	NG	NG
226 C	OK	OK	OK	NG	NG	NG
230 C	OK	OK	OK	OK	OK	OK
231 C	OK	OK	OK	OK	OK	NG
232 C	OK	OK	OK	NG	NG	NG
Phodamine Red C	NG	OK	OK	NG	NG	NG
236 C	OK	OK	OK	OK	OK	NG
237 C	OK	OK	OK	NG	NG	NG
238 C	OK	OK	OK	NG	NG	NG
239 C	OK	OK	OK	NG	NG	NG
243 C	OK	OK	OK	OK	OK	NG
244 C	OK	OK	OK	OK	OK	NG

Colour sample no.	99	96E+/G	97E/G	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
245 C	OK	OK	OK	OK	OK	NG
246 C	NG	OK	OK	NG	NG	NG
250 C	OK	OK	OK	OK	OK	NG
251 C	OK	OK	OK	NG	NG	NG
252 C	NG	OK	OK	NG	NG	NG
Purple C	NG	OK	NG	NG	NG	NG
256 C	OK	OK	OK	NG	NG	NG
263 C	OK	OK	OK	NG	NG	NG
379 C	OK	OK	OK	NG	NG	NG
380 C	NG	OK	NG	NG	NG	NG
386 C	OK	OK	OK	OK	OK	NG
393 C	OK	OK	OK	OK	OK	OK
394 C	OK	OK	OK	OK	OK	OK
395 C	NG	OK	OK	NG	NG	NG
427 C	NG	OK	OK	NG	NG	NG
Warm Gray 1C	OK	OK	OK	NG	NG	NG
Cool Gray 1C	OK	OK	OK	OK	OK	NG
454 C	OK	OK	OK	NG	NG	NG
459 C	OK	OK	OK	NG	NG	NG
460 C	OK	OK	OK	OK	OK	OK
461 C	OK	OK	OK	OK	OK	OK
467 C	NG	OK	OK	NG	NG	NG
468 C	OK	OK	OK	NG	NG	NG
473 C	NG	OK	OK	OK	OK	OK
474 C	OK	OK	OK	OK	OK	OK
475 C	OK	OK	OK	OK	OK	OK
481 C	NG	OK	OK	NG	NG	NG
482 C	OK	OK	OK	OK	OK	OK
485 C	NG	OK	OK	NG	NG	NG
486 C	OK	OK	OK	OK	OK	NG
487 C	OK	OK	OK	OK	OK	OK
488 C	OK	OK	OK	OK	OK	OK
489 C	OK	OK	OK	OK	OK	OK
495 C	NG	OK	OK	OK	OK	OK

Colour sample no.	99	96E+/G	97E/G	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
496 C	OK	OK	OK	OK	OK	OK
502 C	NG	OK	OK	NG	NG	NG
503 C	NG	OK	OK	OK	OK	OK
510 C	NG	OK	OK	OK	OK	OK
516 C	NG	OK	OK	NG	NG	NG
517 C	NG	OK	OK	OK	OK	OK
524 C	NG	OK	OK	NG	NG	NG
531 C	OK	OK	OK	NG	NG	NG
580 C	OK	NG	OK	NG	NG	NG
586 C	NG	OK	OK	NG	NG	NG
587 C	OK	OK	OK	OK	OK	OK
803 C	OK	OK	OK	OK	OK	OK
804 C	OK	OK	OK	OK	OK	OK
805 C	OK	OK	OK	OK	OK	OK
806 C	OK	OK	OK	NG	NG	NG
Orange 021U	OK	OK	OK	OK	OK	OK
Red 032U	OK	OK	OK	NG	NG	NG
Proc.Yellow U	OK	OK	OK	OK	OK	OK
Proc.Magenta U	NG	OK	OK	NG	NG	NG
100 U	OK	OK	OK	OK	OK	OK
101 U	OK	OK	OK	OK	OK	OK
102 U	OK	OK	OK	OK	OK	OK
Yellow U	OK	OK	OK	OK	OK	OK
106 U	OK	OK	OK	OK	OK	OK
107 U	OK	OK	OK	OK	OK	OK
108 U	OK	OK	OK	OK	OK	OK
109 U	OK	OK	OK	OK	OK	OK
113 U	OK	OK	OK	OK	OK	OK
114 U	OK	OK	OK	OK	OK	OK
115 U	OK	OK	OK	OK	OK	OK
116 U	OK	OK	OK	OK	OK	OK
120 U	OK	OK	OK	OK	OK	OK
121 U	OK	OK	OK	OK	OK	OK
122 U	OK	OK	OK	OK	OK	OK

Colour sample no.	99	96E+/G	97E/G	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
123 U	OK	OK	OK	OK	OK	OK
127 U	OK	OK	OK	OK	OK	OK
128 U	OK	OK	OK	OK	OK	OK
129 U	OK	OK	OK	OK	OK	OK
130 U	OK	OK	OK	OK	OK	NG
134 U	OK	OK	OK	OK	OK	OK
135 U	OK	OK	OK	OK	OK	OK
136 U	OK	OK	OK	OK	OK	OK
137 U	OK	OK	OK	OK	OK	OK
141 U	OK	OK	OK	OK	OK	OK
142 U	OK	OK	OK	OK	OK	OK
143 U	OK	OK	OK	OK	OK	OK
144 U	OK	OK	OK	OK	OK	NG
148 U	OK	OK	OK	OK	OK	OK
149 U	OK	OK	OK	OK	OK	OK
150 U	OK	OK	OK	OK	OK	OK
151 U	OK	OK	OK	OK	OK	OK
155 U	OK	OK	OK	OK	OK	OK
156 U	OK	OK	OK	OK	OK	OK
157 U	OK	OK	OK	OK	OK	NG
158 U	OK	OK	OK	NG	NG	NG
162 U	OK	OK	OK	OK	OK	OK
163 U	OK	OK	OK	OK	OK	OK
164 U	OK	OK	OK	OK	OK	OK
165 U	OK	OK	OK	OK	OK	OK
169 U	OK	OK	OK	OK	OK	OK
170 U	OK	OK	OK	OK	OK	OK
171 U	OK	OK	OK	OK	OK	OK
172 U	OK	OK	OK	OK	OK	NG
176 U	OK	OK	OK	OK	OK	OK
177 U	OK	OK	OK	OK	OK	OK
178 U	OK	OK	OK	OK	OK	OK
Warm Red U	OK	OK	OK	OK	OK	NG
182 U	OK	OK	OK	OK	OK	OK

Colour sample no.	99	96E+/G	97E/G	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
183 U	OK	OK	OK	OK	OK	OK
184 U	OK	OK	OK	OK	OK	NG
185 U	OK	OK	OK	NG	NG	NG
189 U	OK	OK	OK	OK	OK	OK
190 U	OK	OK	OK	OK	OK	NG
191 U	OK	OK	OK	OK	OK	NG
192 U	OK	OK	OK	NG	NG	NG
196 U	OK	OK	OK	OK	OK	OK
197 U	OK	OK	OK	OK	OK	NG
198 U	OK	OK	OK	NG	NG	NG
199 U	OK	OK	OK	NG	NG	NG
203 U	OK	OK	OK	OK	OK	OK
204 U	OK	OK	OK	OK	OK	NG
205 U	OK	OK	OK	NG	NG	NG
206 U	OK	OK	OK	NG	NG	NG
210 U	OK	OK	OK	OK	OK	OK
211 U	OK	OK	OK	OK	OK	NG
212 U	OK	OK	OK	NG	NG	NG
213 U	NG	OK	OK	NG	NG	NG
217 U	OK	OK	OK	OK	OK	OK
218 U	OK	OK	OK	OK	OK	NG
219 U	OK	OK	OK	NG	NG	NG
Rubine Red U	OK	OK	OK	NG	NG	NG
223 U	OK	OK	OK	OK	OK	OK
224 U	OK	OK	OK	OK	OK	NG
225 U	OK	OK	OK	NG	NG	NG
226 U	OK	OK	OK	NG	NG	NG
230 U	OK	OK	OK	OK	OK	OK
231 U	OK	OK	OK	OK	OK	NG
232 U	OK	OK	OK	NG	NG	NG
Rhodamine Red U	OK	OK	OK	NG	NG	NG
236 U	OK	OK	OK	OK	OK	NG
237 U	OK	OK	OK	NG	NG	NG
238 U	OK	OK	OK	NG	NG	NG

Colour sample no.	99	96E+/G	97E/G	93EX/GX	93DE/DG (Front)	93DE/DG (Back)
239 U	OK	OK	OK	NG	NG	NG
243 U	OK	OK	OK	OK	OK	NG
244 U	OK	OK	OK	NG	NG	NG
245 U	OK	OK	OK	NG	NG	NG
246 U	NG	OK	OK	NG	NG	NG
250 U	OK	OK	OK	OK	OK	NG
251 U	OK	OK	OK	NG	NG	NG
252 U	NG	OK	OK	NG	NG	NG
Purple U	NG	OK	OK	NG	NG	NG
263 U	NG	OK	NG	NG	NG	NG
379 U	OK	OK	OK	NG	NG	NG
386 U	NG	OK	OK	OK	OK	NG
393 U	OK	OK	OK	OK	OK	OK
394 U	OK	OK	OK	OK	OK	NG
395 U	NG	OK	NG	OK	OK	NG
Warm Gray 1U	OK	OK	OK	NG	NG	NG
Cool Gray 1U	OK	OK	OK	NG	NG	NG
Cool Gray 2U	OK	NG	NG	NG	NG	NG
459 U	NG	OK	OK	NG	NG	NG
460 U	OK	OK	OK	NG	NG	NG
461 U	OK	OK	OK	OK	OK	OK
468 U	OK	OK	OK	NG	NG	NG
473 U	NG	OK	NG	NG	NG	NG
474 U	OK	OK	OK	NG	NG	NG
475 U	OK	OK	OK	OK	OK	OK
482 U	OK	OK	OK	NG	NG	NG
485 U	OK	OK	OK	NG	NG	NG
486 U	OK	OK	OK	OK	OK	NG
487 U	OK	OK	OK	OK	OK	OK
488 U	OK	OK	OK	OK	OK	OK
489 U	OK	OK	OK	OK	OK	OK
496 U	NG	OK	OK	OK	OK	OK
510 U	NG	OK	OK	OK	OK	NG
517 U	NG	NG	OK	OK	OK	NG

<b>Colour sample no.</b>	<b>99</b>	<b>96E+/G</b>	<b>97E/G</b>	<b>93EX/GX</b>	<b>93DE/DG (Front)</b>	<b>93DE/DG (Back)</b>
531 U	OK	OK	OK	NG	NG	NG
586 U	NG	OK	OK	OK	OK	NG
587 U	OK	OK	OK	OK	OK	OK