

Opto-electronic conversion function of the Sony a7S in video mode with "standard" gamma

Petr C. Štánský  
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Sony a7S: ISO 409,000; 25 kV, XAVC-S, 50 MHz/s  
Canon FD 1.4/70 mm; F = 11  
Image processing: Average images from 100 frames, average values of the test charts fields  
Test chart: Kodak grey scale chart with 20 fields of 1/3 F-stops each  
Correction for gloss of the test chart was made

1. Normal exposures; t = 1/25 s																				
Field of test chart	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Code value (8 bits) original	255	252	242	229	214	200	180	157	141	122	106	91	80	69	62	54	47	42	38	35
Code value (8 bits) corrected	255	252	242	229	214	199	179	157	141	122	106	90	78	68	60	53	47	42	38	35

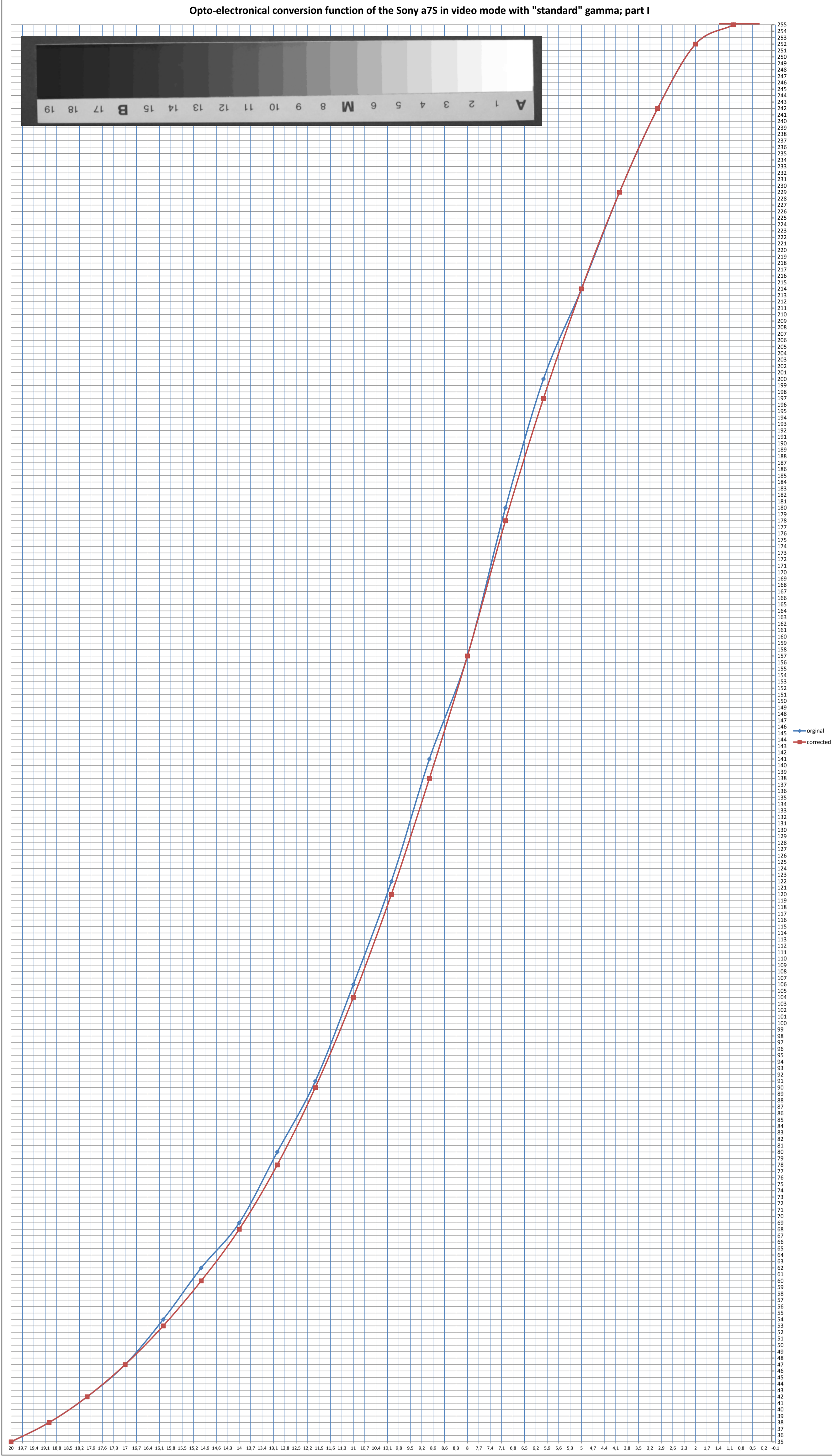
  

2. Exposure minus 4 F-stops; t = 1/200 s																				
Field of test chart	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Code value (8 bits) original	115	97	82	71	63	56	50	45	40	35	31	27	24	21	18	16	14	12	11	9
Code value (8 bits) corrected	115	97	82	69	58	50	45	40	35	31	27	24	21	18	16	14	12	11	9	7

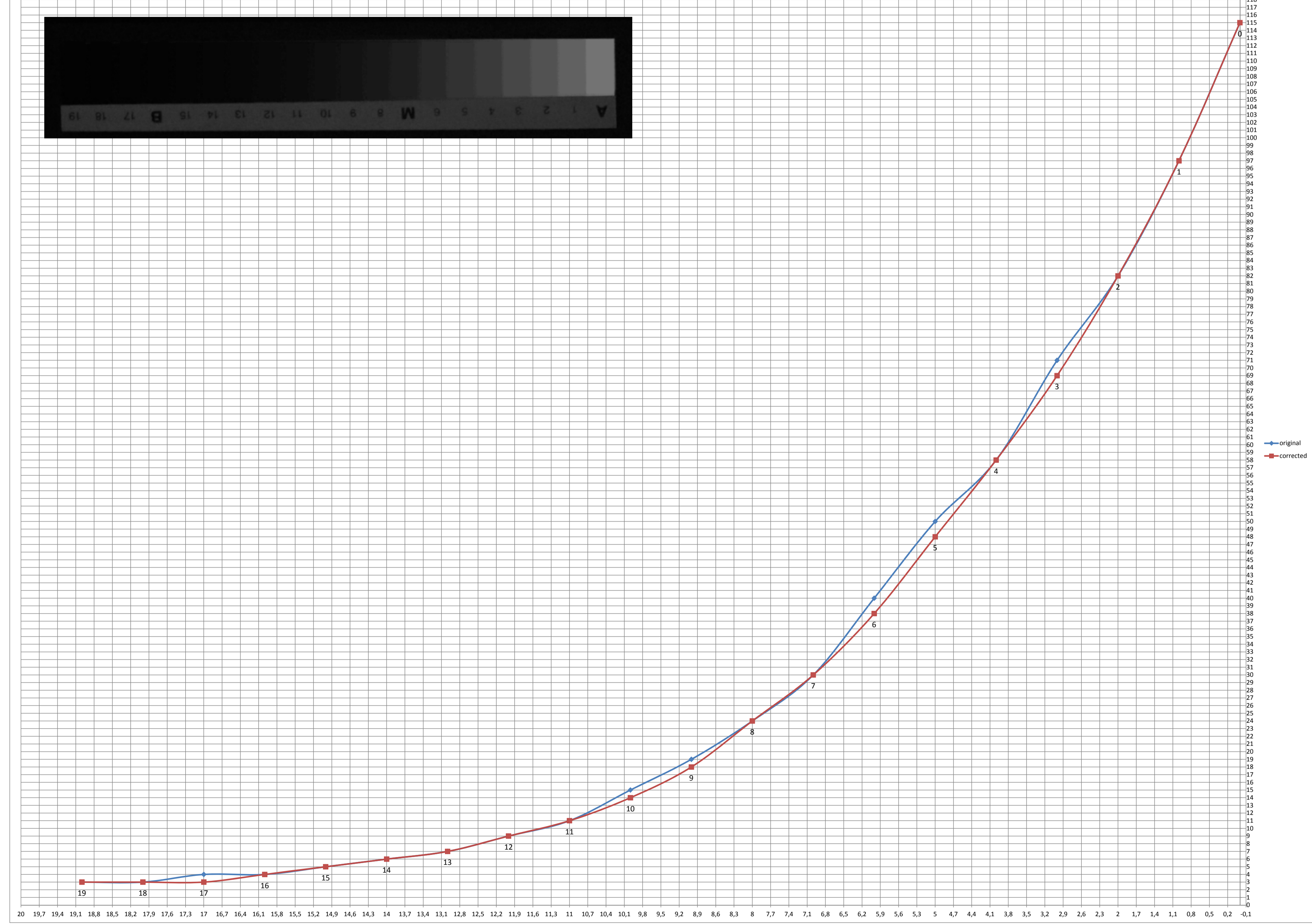
The measurement shows a precision of less than 1/10 of an F-stop or less than 7% at code values higher than 4.

Look up table (LUT)

CV	0.0
1	0.0
2	0.0
3	0.0
4	0.3
5	0.7
6	1.0
7	1.3
8	1.5
9	1.7
10	1.8
11	2.0
12	2.1
13	2.2
14	2.3
15	2.4
16	2.5
17	2.6
18	2.7
19	2.7
20	2.8
21	2.8
22	2.9
23	2.9
24	3.0
25	3.1
26	3.1
27	3.2
28	3.2
29	3.3
30	3.3
31	3.4
32	3.4
33	3.5
34	3.5
35	3.6
36	3.6
37	3.6
38	3.7
39	3.7
40	3.7
41	3.8
42	3.8
43	3.8
44	3.9
45	3.9
46	3.9
47	4.0
48	4.0
49	4.0
50	4.1
51	4.1
52	4.1
53	4.2
54	4.2
55	4.2
56	4.3
57	4.3
58	4.3
59	4.4
60	4.4
61	4.4
62	4.5
63	4.5
64	4.5
65	4.6
66	4.6
67	4.6
68	4.6
69	4.7
70	4.7
71	4.7
72	4.8
73	4.8
74	4.8
75	4.8
76	4.8
77	4.9
78	4.9
79	4.9
80	4.9
81	5.0
82	5.0
83	5.0
84	5.0
85	5.1
86	5.1
87	5.1
88	5.1
89	5.2
90	5.2
91	5.2
92	5.2
93	5.2
94	5.3
95	5.3
96	5.3
97	5.3
98	5.3
99	5.4
100	5.4
101	5.4
102	5.4
103	5.4
104	5.5
105	5.5
106	5.5
107	5.5
108	5.5
109	5.6
110	5.6
111	5.6
112	5.6
113	5.6
114	5.6
115	5.7
116	5.7
117	5.7
118	5.7
119	5.7
120	5.7
121	5.8
122	5.8
123	5.8
124	5.8
125	5.8
126	5.8
127	5.9
128	5.9
129	5.9
130	5.9
131	5.9
132	6.0
133	6.0
134	6.0
135	6.0
136	6.0
137	6.0
138	6.1
139	6.1
140	6.1
141	6.1
142	6.1
143	6.2
144	6.2
145	6.2
146	6.2
147	6.2
148	6.2
149	6.3
150	6.3
151	6.3
152	6.3
153	6.3
154	6.3
155	6.4
156	6.4
157	6.4
158	6.4
159	6.4
160	6.4
161	6.5
162	6.5
163	6.5
164	6.5
165	6.5
166	6.5
167	6.6
168	6.6
169	6.6
170	6.6
171	6.6
172	6.6
173	6.6
174	6.7
175	6.7
176	6.7
177	6.7
178	6.7
179	6.7
180	6.8
181	6.8
182	6.8
183	6.8
184	6.8
185	6.8
186	6.9
187	6.9
188	6.9
189	6.9
190	6.9
191	7.0
192	7.0
193	7.0
194	7.0
195	7.0
196	7.0
197	7.1
198	7.1
199	7.1
200	7.1
201	7.1
202	7.2
203	7.2
204	7.2
205	7.2
206	7.2
207	7.3
208	7.3
209	7.3
210	7.3
211	7.3
212	7.4
213	7.4
214	7.4
215	7.4
216	7.4
217	7.5
218	7.5
219	7.5
220	7.5
221	7.5
222	7.5
223	7.6
224	7.6
225	7.6
226	7.7
227	7.7
228	7.7
229	7.7
230	7.8
231	7.8
232	7.8
233	7.8
234	7.9
235	7.9
236	7.9
237	7.9
238	7.9
239	8.0
240	8.0
241	8.0
242	8.1
243	8.1
244	8.1
245	8.2
246	8.2
247	8.2
248	8.2
249	8.3
250	8.3
251	8.4
252	8.4
253	8.5
254	8.6
255	8.7



Opto-electronic conversion function of the Sony a7S in video mode with "standard" gamma part II



(Code values above 255 are impossible in an 8 bit system)