

Gernot Hoffmann
PS-Swatch Spot

Colors by Lab numbers
Coated
1137 Color Patches

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March 27 / 2015

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The set of spot ink colors can be considered as a representative set for all real world surface colors under illuminant D50. It means that more vivid colors are hardly found.

This was recently confirmed in chapter 8.4.3 of this book:

Ján Morovič
Color Gamut Mapping
John Wiley & Sons, Ltd
2008

In this sense the gamut volume, as occupied by these colors, can be considered as the necessary gamut.

This doc:

<http://docs-hoffmann.de/swatch16032005.pdf>

March 16 / 2005 + February 01 / 2013 + January 04 / 2014 + March 27 / 2015

Introduction

■ This document contains on page 3 to 14 altogether 1137 color patches (spot colors, coated), each one defined by CIELab values.

The Lab values are written under each patch. Additionally the RGB numbers were calculated for sRGB and AdobeRGB(98) and written in the patches.

Lab values are valid for reference white D50, but sRGB and AdobeRGB(98) use D65 white point.

In order to get matching values in Photoshop, a chromatic adaptation transform (Bradford) was applied. This is accurate within ± 1 unit of 255, with a few exceptions.

For tests by Photoshop choose the appropriate RGB working space and open a page of the PDF in Lab mode, providing a sufficient resolution.

Check Lab and RGB numbers by Info Palette.

A color is out of gamut for an RGB space if at least one value is negative or greater than 255. Because of clipping this is indicated by 0 or 255.

■ Page 15 and 16 show the patches in the CIE chromaticity diagram.

The Lab colors are at correct positions in xy-coordinates, but for the gamut test the chromatic adaptation transform was applied. A few colors are outside the gamut triangle but nevertheless in-gamut for the RGB space.

■ Page 17 shows a suggestion for an 'optimal' RGB working space and printer inks CMY, M+Y, C+Y, C+M for ISO Coated and an inkjet.

■ Page 18 and 19 show the colors for the common IT8.7/2 target which is used for scanner and camera calibration. The gamut is not extraordinarily large. These colors are obviously relevant for practical color reproduction.

■ Page 20 to 31 show planes of constant Lab hue and the nearest spot colors, if the distance is not larger than 10 Lab units ($dE \leq 10$).

This PDF is not a spot document. That means, it does not contain 1137 spot plates. In fact it will be printed by CMYK. It depends entirely on the quality of the RIP whether the Lab colors are correctly reproduced.

The document was not authorized by any manufacturer of color systems.

Thanks to *Roger Breton* for providing a method how to generate a list of common spot colors by Lab values.

More about CIELab (1.6 MB):

<http://docs-hoffmann.de/cielab03022003.pdf>

Gernot Hoffmann

s	a
251	243
222	222
0	0

YELLOW
88.93 -3.6 111.13

s	a
0	0
34	39
158	153

REFLEX-BLUE
19.41 29.94 -72.51

s	a
224	191
0	0
138	134

Hexachrome-Magenta
48.49 81.28 -11.86

s	a
130	125
115	115
25	39

105
49.02 -1.27 48.05

s	a
250	241
220	219
69	84

115
88.66 -0.86 73.28

s	a
184	170
136	134
0	10

125
60.21 11.77 70.02

s	a
241	233
214	213
94	102

128
86.36 -0.26 61.15

s	a
228	205
127	126
0	0

138
63.91 34.64 81.33

s	a
241	230
200	199
102	108

141
83.07 6.52 53.86

s	a
254	230
115	114
0	0

151
66.25 53.29 85.76

s	a
254	243
212	211
0	0

YELLOW-012
86.59 2.59 114.22

s	a
0	0
132	131
207	204

PROCESS-BLUE
48.01 -34.4 -55.5

s	a
0	0
138	136
210	207

Hexachrome-Cyan
50.06 -36.31 -53.75

s	a
246	241
229	229
97	106

106
90.7 -5.66 64.7

s	a
254	242
206	205
0	21

116
85.34 6.62 91.94

s	a
161	151
125	125
9	33

126
55.06 7.33 58.34

s	a
241	231
205	203
69	82

129
83.89 3.28 68.69

s	a
181	164
112	111
0	0

139
54.02 23.3 66.43

s	a
240	226
186	185
70	81

142
79.33 11.99 63.72

s	a
230	204
110	110
0	0

152
60.81 43.97 76.51

s	a
254	229
91	92
0	0

ORANGE-021
62.78 63.39 94.36

s	a
0	0
175	173
138	138

GREEN
60.09 -78.37 2.26

s	a
0	46
166	165
66	75

Hexachrome-Green
57.41 -78.3 36.55

s	a
248	242
224	224
47	70

107
89.49 -3.84 80.53

s	a
204	191
157	155
0	0

117
67.72 9.16 83.63

s	a
243	238
225	224
165	167

1205
90.2 0.04 31.86

s	a
242	224
172	170
0	0

130
75.64 18.24 86.48

s	a
123	114
87	87
16	30

140
40.15 10.96 43.21

s	a
240	222
170	169
36	54

143
75.23 18.98 71.78

s	a
192	171
103	103
0	19

153
53.53 32.45 62.89

s	a
252	218
60	62
47	51

WARM-RED
57.26 71.36 54.34

s	a
50	51
43	47
36	41

BLACK
18.25 2.57 5.76

s	a
33	38
34	39
35	40

Hexachrome-Black
13.31 -0.17 -1.21

s	a
252	242
217	216
0	17

108
87.77 0.01 94.43

s	a
177	166
138	137
0	0

118
60.1 7.37 72.2

s	a
246	239
221	220
147	149

1215
89.07 1.59 39.67

s	a
211	193
144	142
0	0

131
65.33 19.02 79.57

s	a
251	239
207	206
139	141

1345
86.04 9.62 39.89

s	a
237	212
128	127
0	0

144
65.34 37.81 78.77

s	a
153	137
84	84
7	24

154
43.59 26.41 50.4

s	a
243	209
43	47
68	69

RED-032
54.19 73.67 39.29

s	a
249	241
222	221
0	0

PROCESS-YELLOW
88.73 -3.97 102.51

s	a
241	239
234	234
133	138

100
91.89 -7.69 49.41

s	a
253	241
209	208
0	0

109
85.85 4.36 99.08

s	a
137	130
116	116
26	40

119
49.93 1.31 48.76

s	a
254	240
199	198
70	82

1225
83.91 11.23 68.71

s	a
166	154
122	121
0	15

132
54.66 11.15 63.88

s	a
253	239
200	199
123	126

1355
84.38 12.78 45.75

s	a
207	186
119	118
0	0

145
59.1 30.5 71.1

s	a
254	242
180	178
122	124

1485
80.63 26.37 42.17

s	a
211	180
0	0
96	94

RUBINE-RED
44.17 78.06 7.45

s	a
212	180
0	0
108	105

PROCESS-MAGENTA
45.03 77.56 1.48

s	a
244	241
234	233
96	106

101
91.79 -8.52 65.97

s	a
219	206
173	172
0	0

110
73.39 7.04 93.34

s	a
247	240
222	221
119	125

120
89.11 0.0 53.01

s	a
254	238
178	177
0	27

1235
79.03 21.72 85.33

s	a
113	106
89	89
20	32

133
39.41 4.9 40.65

s	a
254	239
183	181
82	90

1365
80.39 21.25 60.41

s	a
160	144
96	96
0	19

146
47.42 22.11 56.42

s	a
254	242
150	148
59	68

1495
74.37 40.99 65.1

s	a
230	197
18	25
157	153

RHODAMINE-RED
52.09 78.9 -17.59

s	a
0	0
157	156
217	214

PROCESS-CYAN
57.36 -38.35 -45.83

s	a
248	242
228	228
0	0

102
90.24 -7.14 99.62

s	a
174	164
142	141
0	0

111
60.77 3.51 74.52

s	a
249	241
219	218
110	117

121
88.63 1.19 56.63

s	a
198	183
145	144
0	31

1245
64.27 13.12 68.93

s	a
249	239
214	213
130	134

134
87.45 5.14 45.97

s	a
254	236
153	152
0	28

1375
73.93 35.43 80.81

s	a
113	106
88	88
33	41

147
39.28 5.85 34.75

s	a
254	237
114	113
0	0

1505
67.27 56.15 90.35

s	a
183	157
40	45
189	184

PURPLE
46.06 67.53 -46.86

s	a
26	32
26	32
27	32

PROCESS-BLACK
9.46 0.3 -0.55

s	a
251	243
222	222
0	0

YELLOW-C.1
88.93 -3.6 111.13

s	a
152	144
127	126
0	20

112
54.36 1.83 61.9

s	a
252	241
211	210
80	91

122
86.62 4.79 67.48

s	a
171	159
130	129
15	36

1255
57.34 9.61 59.49

s	a
254	240
199	198
91	99

135
84.03 12.16 60.38

s	a
214	191
118	117
0	0

1385
59.82 33.8 74.26

s	a
251	239
207	206
154	155

s	a
81	73
38	42
11	20

1545
21.03 19.12 25.88

s	a
254	234
135	134
69	74

1575
70.55 45.66 56.9

s	a
194	170
80	81
14	28

167
49.35 44.67 56.05

s	a
254	235
139	137
123	123

170
71.86 46.46 30.42

s	a
227	196
57	60
42	47

179
52.17 64.85 50.01

s	a
250	231
176	174
193	191

1767
79.42 29.56 2.6

s	a
234	200
0	0
55	57

185
50.21 76.47 41.56

s	a
118	103
41	45
57	59

195
29.14 35.3 8.58

s	a
228	198
75	76
109	108

198
55.39 61.61 15.37

s	a
143	123
32	37
71	71

208
33.26 48.09 5.95

s	a
238	231
214	213
174	175

155
87.12 4.25 22.94

s	a
254	229
106	105
0	24

1585
64.71 57.09 74.1

s	a
109	97
47	50
18	26

168
28.25 27.17 31.46

s	a
254	228
98	98
66	70

171
63.8 61.56 51.21

s	a
191	165
53	56
42	47

180
44.81 55.08 40.08

s	a
252	221
101	101
130	128

1777
63.78 60.25 15.58

s	a
210	179
12	20
52	54

186
45.48 69.5 36.74

s	a
244	229
189	188
211	209

1895
82.3 22.85 -2.98

s	a
218	187
14	21
63	64

199
47.41 71.68 32.46

s	a
117	102
38	42
64	65

209
28.68 36.9 3.13

s	a
239	226
193	191
136	138

156
81.34 11.68 34.93

s	a
218	191
92	93
8	26

1595
55.6 47.88 63.36

s	a
254	236
162	161
139	139

1625
76.71 35.05 27.92

s	a
253	220
69	70
6	21

172
58.32 68.85 69.23

s	a
123	107
41	45
35	40

181
29.93 35.91 23.95

s	a
248	215
64	66
94	93

1787
57.49 70.59 28.18

s	a
177	151
25	31
51	54

187
39.11 58.89 27.8

s	a
246	224
156	154
189	186

1905
74.58 37.74 -2.3

s	a
192	164
1	6
51	53

200
41.31 66.08 31.68

s	a
249	228
159	157
203	200

210
75.99 38.85 -7.9

s	a
238	217
155	153
79	85

157
71.62 27.07 51.97

s	a
162	142
74	75
18	29

1605
42.85 34.96 47.44

s	a
254	234
142	140
111	112

1635
72.2 44.13 37.33

s	a
214	186
68	70
27	35

173
51.21 56.77 54.83

s	a
254	232
157	156
176	174

1765
75.66 39.03 6.63

s	a
243	209
43	47
68	69

RED-032-C.1
54.19 73.67 39.29

s	a
126	109
35	39
49	52

188
29.64 40.4 15.02

s	a
241	211
84	85
138	135

1915
59.66 63.99 5.02

s	a
157	134
25	31
51	53

201
34.96 53.17 21.73

s	a
249	222
123	122
183	179

211
68.33 53.67 -7.86

s	a
233	206
107	107
18	34

158
60.68 46.66 65.66

s	a
134	118
62	64
18	28

1615
35.68 29.6 39.38

s	a
254	230
107	107
60	65

1645
65.37 57.67 56.09

s	a
153	133
51	54
22	30

174
37.08 42.42 40.66

s	a
254	229
133	132
154	152

1775
70.53 48.77 11.28

s	a
207	177
34	39
50	52

1797
46.09 65.2 38.48

s	a
249	227
161	159
188	186

189
75.94 36.08 0.22

s	a
228	194
0	0
79	79

1925
48.88 76.48 25.11

s	a
136	117
33	38
52	54

202
31.45 44.48 15.74

s	a
243	211
76	77
153	150

212
59.19 68.46 -4.61

s	a
204	179
88	89
7	25

159
52.59 44.78 60.59

s	a
254	238
194	193
169	169

162
83.77 19.38 21.36

s	a
254	223
81	82
3	22

1655
60.44 65.55 71.03

s	a
113	100
51	54
36	41

175
29.92 27.25 22.97

s	a
249	216
68	70
90	90

1785
58.03 69.2 30.98

s	a
163	140
39	44
50	53

1807
37.74 50.97 25.9

s	a
248	220
118	117
156	153

190
66.54 53.33 4.71

s	a
203	173
0	0
70	70

1935
43.79 69.81 23.05

s	a
234	217
171	169
202	199

203
76.86 27.21 -6.27

s	a
231	198
22	29
119	116

213
51.43 76.23 4.27

s	a
162	143
78	79
17	29

160
43.69 33.16 48.44

s	a
254	236
155	154
112	113

163
74.92 37.12 40.19

s	a
229	199
72	73
0	16

1665
54.34 60.19 66.32

s	a
254	237
173	172
184	183

176
79.6 32.59 7.54

s	a
239	206
34	39
51	54

1788
52.68 73.99 46.65

s	a
93	83
38	43
40	44

1817
23.83 25.78 11.74

s	a
242	209
64	66
113	111

191
56.6 69.64 15.38

s	a
170	145
12	20
62	63

1945
37.16 59.66 17.88

s	a
231	206
123	122
170	167

204
65.44 46.65 -5.33

s	a
208	178
6	14
101	99

214
45.78 71.51 6.84

s	a
96	87
53	56
23	31

161
27.47 17.6 27.0

s	a
254	233
126	125
66	71

164
68.87 49.81 56.66

s	a
167	145
59	61
15	25

1675
40.93 43.8 47.72

s	a
254	233
129	128
141	139

177
70.35 51.9 18.77

s	a
214	183
29	35
40	44

179

s	a
231	205
111	111
183	179

218
63.6 53.28 -15.31

s	a
175	148
0	0
97	95

227
36.93 68.21 -4.57

s	a
242	225
175	174
224	221

236
79.26 30.49 -14.56

s	a
197	167
0	0
153	148

2395
42.66 79.08 -30.38

s	a
122	106
35	40
101	100

249
30.51 43.28 -18.45

s	a
146	130
73	75
156	153

258
43.35 40.77 -32.16

s	a
107	92
24	30
121	118

2612
27.12 45.5 -36.63

s	a
165	152
120	119
201	198

2577
57.51 29.82 -36.08

s	a
80	71
33	38
144	140

267
25.53 40.23 -53.98

s	a
174	172
172	171
220	218

270
72.01 8.23 -24.21

s	a
223	191
36	41
138	135

219
51.04 72.96 -8.24

s	a
137	117
4	12
82	81

228
30.03 53.37 -6.27

s	a
238	214
135	134
210	206

237
69.9 47.58 -20.92

s	a
169	143
0	0
131	127

2405
36.43 70.43 -27.08

s	a
228	217
191	190
231	229

250
81.68 18.51 -14.83

s	a
109	94
28	34
115	113

259
27.64 43.82 -32.08

s	a
89	79
38	42
90	89

2622
24.57 30.07 -20.86

s	a
133	119
72	74
179	175

2587
42.41 40.96 -47.27

s	a
76	69
35	40
127	123

268
24.2 34.39 -45.11

s	a
147	145
144	143
209	206

271
62.17 12.17 -33.17

s	a
211	180
0	0
96	94

RUBINE-RED-C.1
44.17 78.06 7.45

s	a
105	91
29	34
67	68

229
24.98 36.9 -4.61

s	a
230	201
84	85
190	186

238
59.25 65.34 -26.08

s	a
152	128
0	0
117	114

2415
32.78 64.1 -24.22

s	a
218	201
156	155
224	221

251
72.37 31.98 -25.27

s	a
99	87
32	38
99	98

260
25.7 37.08 -24.99

s	a
200	188
159	157
215	212

2563
70.79 23.19 -22.81

s	a
89	77
5	13
140	136

2597
23.58 49.83 -54.64

s	a
71	66
40	44
101	99

269
22.85 25.18 -30.9

s	a
120	118
115	115
194	190

272
51.78 16.66 -41.26

s	a
174	148
0	0
87	86

220
36.95 65.95 1.92

s	a
246	226
167	165
217	214

230
77.64 35.54 -13.03

s	a
222	191
47	51
175	170

239
53.05 73.36 -26.8

s	a
130	111
0	0
99	97

2425
28.5 54.76 -19.68

s	a
201	178
101	101
209	205

252
58.44 51.84 -38.64

s	a
89	79
30	36
85	85

261
22.94 33.11 -20.24

s	a
179	164
124	123
199	196

2573
60.0 32.08 -30.93

s	a
79	69
6	14
123	120

2607
20.46 45.07 -48.68

s	a
191	185
175	173
226	223

2635
74.22 13.52 -23.76

s	a
37	39
23	30
122	119

273
16.77 31.34 -54.34

s	a
149	127
0	0
74	74

221
31.68 58.08 2.03

s	a
245	218
119	119
200	196

231
67.6 55.99 -18.75

s	a
199	170
32	37
153	149

240
46.63 69.26 -24.11

s	a
233	220
183	182
228	225

243
80.31 24.0 -15.02

s	a
183	157
40	45
189	184

PURPLE-C.1
46.06 67.53 -46.86

s	a
81	73
35	40
74	74

262
21.93 26.15 -14.1

s	a
153	136
81	82
177	173

2583
46.82 42.2 -38.88

s	a
76	67
15	23
112	109

2617
19.92 39.88 -42.73

s	a
170	163
148	147
220	216

2645
65.68 19.39 -33.46

s	a
32	35
20	27
102	100

274
13.6 26.8 -46.69

s	a
108	94
24	30
64	65

222
24.84 39.66 -2.45

s	a
238	206
66	68
176	172

232
57.7 72.34 -20.42

s	a
174	148
8	17
129	126

241
39.61 65.2 -21.21

s	a
230	213
163	161
223	220

244
75.11 32.67 -20.19

s	a
170	146
29	35
175	170

253
42.1 65.6 -44.83

s	a
210	197
166	165
227	224

2562
73.95 24.37 -24.55

s	a
126	110
41	45
151	147

2593
34.44 48.71 -43.17

s	a
67	60
18	25
93	92

2627
17.32 33.41 -34.63

s	a
145	136
115	115
209	205

2655
54.76 27.4 -44.87

s	a
30	33
19	26
87	86

275
11.64 23.0 -40.4

s	a
242	219
145	144
207	204

223
72.35 43.25 -15.58

s	a
230	197
18	25
157	153

RHODAMINE-RED-C.1
52.09 78.9 -17.59

s	a
122	105
24	30
86	85

242
28.43 45.5 -11.8

s	a
223	201
130	129
213	209

245
67.04 45.41 -26.98

s	a
150	129
36	40
153	149

254
37.97 56.79 -38.42

s	a
194	178
133	132
218	214

2572
64.34 34.94 -34.5

s	a
106	91
24	30
127	123

2603
27.18 46.36 -39.97

s	a
214	210
202	201
233	231

263
83.27 8.46 -13.71

s	a
121	111
82	83
197	193

2665
43.99 36.13 -55.36

s	a
36	39
28	33
68	69

276
13.29 13.22 -24.59

s	a
239	211
108	107
190	186

224
64.34 58.03 -18.23

s	a
201	171
0	0
128	125

233
43.75 74.89 -13.58

s	a
238	226
196	194
229	227

2365
83.71 19.59 -10.52

s	a
198	169
8	16
173	168

246
46.15 74.3 -37.01

s	a
113	99
39	44
108	106

s a
37 33
0 0
147 143

2735
14.09 53.87 -74.77

s a
23 31
31 36
87 86

2766
14.25 13.46 -35.78

s a
0 39
72 74
190 186

2728
33.53 19.91 -68.65

s a
0 0
37 41
105 103

281
15.32 8.89 -46.32

s a
164 176
206 204
235 233

291
80.55 -9.17 -19.41

s a
0 0
84 85
165 161

2945
32.76 -8.15 -55.2

s a
166 181
218 217
235 234

2975
83.97 -14.32 -14.37

s a
0 0
132 131
207 204

PROCESS-BLUE-C.1
48.01 -34.4 -55.5

s a
0 22
70 72
81 81

316
25.5 -25.13 -14.27

s a
54 123
204 203
217 216

319
75.35 -36.51 -18.11

s a
31 31
0 0
123 120

2745
12.0 43.6 -63.23

s a
190 194
208 207
235 234

2707
82.92 -2.02 -15.72

s a
0 0
23 29
158 153

2738
18.3 38.77 -74.32

s a
0 13
33 38
78 78

282
12.61 2.21 -32.53

s a
108 132
179 178
231 229

292
70.09 -12.1 -33.59

s a
0 0
60 63
111 109

2955
22.83 -9.92 -37.77

s a
67 119
191 189
232 230

2985
71.99 -25.27 -31.2

s a
0 0
114 113
178 175

307
41.51 -32.78 -48.96

s a
112 148
211 210
227 226

3105
79.23 -27.09 -17.54

s a
0 0
151 149
171 169

320
52.57 -62.26 -27.8

s a
27 29
2 9
104 102

2755
10.26 35.67 -53.93

s a
163 170
191 189
235 233

2717
76.52 -2.19 -25.28

s a
0 9
28 34
123 120

2748
15.48 24.43 -57.51

s a
148 160
191 190
232 230

283
75.59 -7.4 -25.53

s a
0 0
73 74
183 178

293
30.51 7.36 -69.36

s a
0 13
50 53
82 81

2965
18.33 -10.87 -25.81

s a
0 54
162 161
224 221

2995
60.36 -30.7 -45.02

s a
0 0
89 90
131 128

308
32.24 -30.38 -35.33

s a
0 110
197 196
219 217

3115
72.57 -36.7 -23.51

s a
0 0
130 129
147 145

321
45.61 -55.64 -24.4

s a
26 29
13 21
85 84

2765
9.73 24.99 -41.73

s a
53 81
121 120
217 213

2727
50.59 3.95 -56.16

s a
0 16
30 35
104 102

2758
14.21 16.65 -47.42

s a
110 130
171 169
229 226

284
67.74 -8.07 -35.69

s a
0 0
54 57
128 125

294
21.67 0.79 -50.25

s a
118 145
198 197
233 231

297
75.9 -18.35 -25.61

s a
0 0
118 118
204 201

3005
44.26 -23.58 -59.72

s a
0 12
56 59
71 72

309
19.97 -21.23 -16.0

s a
0 44
175 173
206 204

3125
62.94 -47.62 -31.48

s a
0 0
112 111
123 122

322
39.88 -45.78 -18.71

s a
196 197
204 202
233 231

2706
82.19 1.89 -15.53

s a
0 0
28 33
165 160

BLUE-072-C.1
19.4 37.51 -76.8

s a
3 21
29 35
79 79

2768
12.12 8.39 -34.22

s a
0 57
120 120
212 208

285
48.45 -4.43 -56.86

s a
0 0
46 49
99 97

295
17.36 -2.96 -38.9

s a
64 113
181 180
230 228

298
69.1 -22.01 -34.52

s a
0 0
97 97
161 157

3015
35.98 -24.52 -47.6

s a
105 143
208 207
230 228

310
78.25 -26.82 -20.34

s a
0 0
146 145
185 182

3135
51.72 -53.49 -36.82

s a
0 14
97 97
103 103

323
34.85 -37.73 -14.21

s a
148 150
161 159
225 222

2716
67.18 6.86 -34.5

s a
0 0
36 40
124 121

2747
17.17 18.65 -55.6

s a
168 176
198 197
233 231

277
78.75 -4.45 -21.06

s a
0 0
55 58
173 168

286
25.3 18.55 -71.82

s a
0 20
41 45
66 67

296
14.77 -7.87 -20.57

s a
0 73
161 160
225 222

299
60.92 -24.61 -44.48

s a
0 0
74 75
110 108

3025
26.95 -23.34 -30.55

s a
0 106
194 193
225 223

311
71.73 -34.88 -27.66

s a
0 0
121 121
150 147

3145
43.23 -46.52 -29.5

s a
150 172
217 216
218 217

324
82.54 -21.59 -7.69

s a
69 76
86 87
198 194

2726
40.47 21.97 -61.9

s a
0 19
36 41
101 99

2757
15.74 10.42 -42.62

s a
138 150
180 179
231 228

278
71.92 -4.83 -30.42

s a
0 0
57 60
152 149

287
24.45 9.59 -61.09

s a
146 163
201 199
233 231

2905
78.1 -12.23 -22.23

s a
0 0
105 105
199 195

300
40.2 -14.22 -62.91

s a
0 14
60 62
81 81

3035
21.75 -19.49 -19.85

s a
0 0
167 166
211 208

312
60.37 -45.58 -37.79

s a
0 0
102 102
124 122

3155
36.29 -41.09 -24.66

s a
71 125
199 198
199 198

325
73.61 -36.01 -10.81

s a
30 37
36 40
173 168

2736
24.03 38.66 -73.95

s a
14 28
36 40
69 70

2767
14.05 1.78 -24.17

s a
66 94
138 137
220 217

279
56.11 -2.55 -49.38

s a
0 0
49 52
130 127

288
20.53 7.53 -53.7

s a
101 130
182 180
230 228

2915
70.42 -15.21 -32.59

s a
0 0
84 85
155 152

301
31.84 -14.94 -50.91

s a
164 181
220 219
233 232

304
84.51 -16.46 -12.62

s a
0 0
146 145
197 194

313
52.32 -46.92 -42.77

s a
0 0
79 80
93 93

3165
28.34 -32.48 -17.83

s a
0 70
176 174
173 171

326
63.17 -51.15 -12.21

s a
24 31
30 35
149 145

2746
20.02 34.5 -66.45

s a
178 182
197 196
233 231

2708
79.1 -0.86 -20.23

s a
0 0
34 39
158 153

REFLEX-BLUE-C.1
19.41 29.94 -72.51

s a
0 9
36 41
76 76

289
13.22 -1.82 -30.29

s a
0 72
148 147
221 217

2925
57.18 -17.05 -48.05

s a
0 0
68 70
110 108

302
25.19 -18.09 -33.46

s a
85 132
203 201
233 232

305
76.06 -27.41 -25.68

s a
0 0
127 126
171 168

314
45.44 -44.18 -38.84

s a
142 167
220 219
228 227

317
88.41 -12.48 -5.89

s a
0 0
132 131
118 118

327
45.26 -69.16 -8.15

s a
21 30
29 35
111 108

2756
15.81 22.23 -48.92

s a
83 98
125 125
215 211

2718
53.0 6.49 -51.27

s a
0 0
39 43
126 123

280
17.48 15.36 -56.29

s a
189 196
217 216
235 234

290
85.22 -6.74 -12.17

s a
0 0
91 92
193 189

2935
36.4 -3.16 -65.88

s a
0 14
53 56
77 77

303
19.04 -15.05 -21.47

s a
0 77
181 180
229 226

306
66.81 -35.61 -37.56

s a
0 0
102 102
133 131

315
36.81 -38.05 -29.4

s a
142 167
220 219
228 227

318
83.01 -23.44 -12.07

s a
0 0
115 114
105 105

328
39.83 -58.57 -7.98

s a
240 238
234 234
119 126

3935
91.64 -9.03 55.71

s a
151 147
143 141
134 134

403
59.94 2.02 5.47

s a
55 55
43 47
39 44

412
18.97 5.21 4.48

s a
168 167
170 168
171 170

422
69.61 -0.33 -0.99

s a
66 71
76 77
86 87

432
31.99 -2.43 -7.44

s a
179 180
188 186
190 189

442
75.64 -2.78 -2.47

s a
179 175
170 168
164 163

WARM-GRAY-5
70.28 2.55 4.2

s a
189 188
189 188
191 190

COOL-GRAY-4
76.92 0.06 -0.89

s a
61 60
45 49
32 38

BLACK-4
20.4 6.22 11.34

s a
213 211
212 210
193 192

454
84.64 -2.02 9.53

s a
239 236
229 228
0 46

3945
89.75 -10.53 89.74

s a
123 119
114 113
104 104

404
48.7 2.4 6.47

s a
200 199
200 199
194 193

413
80.73 -0.75 2.91

s a
145 145
147 146
149 148

423
61.1 -0.46 -1.23

s a
31 39
40 44
47 51

433
15.7 -2.19 -6.3

s a
152 154
162 161
166 164

443
66.14 -3.18 -3.25

s a
170 166
160 159
154 153

WARM-GRAY-6
66.88 2.78 4.46

s a
178 176
178 177
180 179

COOL-GRAY-5
72.82 0.01 -1.07

s a
70 66
48 51
50 54

BLACK-5
22.68 10.6 2.42

s a
92 87
71 72
24 33

4485
31.84 5.55 30.72

s a
236 233
225 224
0 0

3955
88.22 -10.43 102.74

s a
100 97
90 91
81 82

405
39.21 2.66 6.99

s a
182 180
182 180
175 174

414
74.04 -1.02 3.65

s a
120 120
123 122
125 124

424
51.58 -0.61 -1.6

s a
212 207
201 200
205 204

434
82.13 4.24 -0.56

s a
123 125
133 132
137 136

444
54.91 -3.26 -3.58

s a
158 154
148 147
141 140

WARM-GRAY-7
62.28 3.1 5.03

s a
176 174
176 175
179 177

COOL-GRAY-6
72.15 0.06 -1.39

s a
16 26
28 34
39 43

BLACK-6
9.75 -2.73 -9.14

s a
132 125
109 109
43 51

4495
47.63 3.37 39.27

s a
234 230
220 219
0 0

3965
86.84 -9.49 106.89

s a
50 51
43 47
36 41

BLACK-C.1
18.25 2.57 5.76

s a
157 156
158 156
149 148

415
64.94 -1.28 4.4

s a
86 88
89 90
91 92

425
37.9 -0.77 -1.74

s a
199 194
186 184
191 189

435
76.82 5.75 -0.95

s a
78 81
84 85
87 88

445
35.57 -2.15 -2.78

s a
145 141
134 133
126 126

WARM-GRAY-8
56.88 3.32 5.6

s a
159 158
160 158
163 161

COOL-GRAY-7
65.95 0.04 -1.63

s a
64 65
60 62
56 58

BLACK-7
25.73 1.23 3.21

s a
155 149
136 134
71 76

4505
57.49 1.47 37.11

s a
187 180
168 166
0 0

3975
68.78 -3.73 84.49

s a
202 198
194 193
191 190

406
79.21 2.35 2.57

s a
135 134
136 135
126 126

416
56.61 -1.56 5.16

s a
35 41
38 42
39 43

426
14.99 -0.74 -1.54

s a
183 177
166 164
172 171

436
69.82 7.19 -1.14

s a
62 65
67 69
66 68

446
28.0 -2.23 -0.63

s a
136 132
124 123
116 116

WARM-GRAY-9
53.16 3.54 5.94

s a
146 145
147 146
151 149

COOL-GRAY-8
61.27 0.04 -1.92

s a
71 71
62 64
39 45

448
26.95 1.34 15.49

s a
179 174
164 162
110 112

4515
67.91 0.06 30.02

s a
155 149
137 136
0 0

3985
57.45 -2.12 67.76

s a
185 181
176 174
172 171

407
72.65 3.16 3.03

s a
111 111
112 111
101 102

417
47.08 -1.79 5.75

s a
211 211
214 213
217 216

427
85.53 -0.58 -1.92

s a
131 124
109 108
116 115

437
48.47 10.11 -0.32

s a
50 54
53 56
50 53

447
22.08 -1.73 1.67

s a
122 118
110 110
102 102

WARM-GRAY-10
47.68 3.86 6.44

s a
132 132
134 133
137 136

COOL-GRAY-9
55.98 0.06 -2.19

s a
78 76
68 70
38 44

449
29.48 0.63 19.9

s a
199 194
187 186
144 144

4525
76.23 -0.64 23.57

s a
105 101
91 91
6 25

3995
39.24 -0.28 44.18

s a
165 161
154 152
150 149

408
64.62 4.01 3.43

s a
89 90
90 91
80 81

418
38.3 -1.97 5.91

s a
196 195
199 198
204 202

428
80.38 -0.82 -2.58

s a
82 78
63 65
65 67

438
28.93 9.12 2.18

s a
223 221
220 219
217 216

WARM-GRAY-1
87.98 0.82 1.6

s a
105 102
92 93
84 85

WARM-GRAY-11
40.48 4.17 6.87

s a
112 111
113 113
117 116

COOL-GRAY-10
47.84 0.03 -2.51

s a
82 81
73 74
37 43

450
31.4 0.16 22.86

s a
212 208
203 202
169 169

4535
81.94 -0.96 18.38

s a
205 202
200 199
195 194

400
81.07 1.04 3.21

s a
148 143
135 134
131 130

409
57.59 4.66 3.96

s a
32 37
34 39
28 34

419
12.95 -1.81 3.34

s a
168 168
174 172
180 179

429
70.88 -1.29 -4.1

s a
69 67
53 56
53 56

439
24.12 7.33 2.57

s a
217 215
213 212
210 209

WARM-GRAY-2
85.75 1.09 2.06

s a
225 224
225 224
225 224

COOL-GRAY-1
89.69 0.1 -0.11

s a
98 98
99 99
104 103

COOL-GRAY-11
42.16 0.15 -2.9

s a
160 157
155 154
117 118

451
63.84 -2.73 20.84

s a
223 220
217 216
193 193

4545
86.87 -1.03 12.42

s a
188 185
182 180
176 175

401
74.58 1.42 3.94

s a
123 118
108 108
104 104

410
47.11 5.49 4.44

s a
203 202
203 202
203 202

420
81.98 -0.22 -0.07

s a
135 136
143 142
151 149

430
59.11 -1.77 -5.45

s a
55 55
44 48
42 46

440
19.47 5.2 3.0

s a
201 198
195 194
190 189

WARM-GRAY-3
79.41 1.73 3.15

s a
214 213
214 213
215 214

COOL-GRAY-2
85.84 0.11 -0.44

s a
58 59
50 53
32 38

BLACK-2
21.57 1.26 13.12

s a
181 179
178 176
146 146

452
72.29 -2.87 16.9

s a
101 97
84 85
22 33

455
36.81 2.2 36.73

s a
173 169
166 164
159 158

402
68.59 1.7 4.51

s a
98 94
82 83
78 79

411
36.68 5.89 4.97

s a
185 184
187 185
187 186

421
75.82 -0.28 -0.59

s a
96 99
106 106
116 115

431
44.53 -2.31 -6.95

s a
202 203
209 208
210 209

441
83.49 -2.17 -1.53

s a
190 186
182 180
176 175

WARM-GRAY-4
74.67 2.19 3.79

s a
201 199
201 200
202 201

COOL-GRAY-3
81.09 0.07 -0.56

s a
40 46
48 51
40 44

BLACK-3
19.11 -5.24 4.07

s a
199 197
197 196
172 172

453
79.47 -2.52 12.98

s a
153 145
128 127
11 34

456
54.74 2.58 57.31

s	a
178	168
146	144
0	26

457
62.23 4.14 68.35

s	a
212	207
196	195
161	162

467
80.07 1.91 19.67

s	a
156	138
78	79
27	36

470
42.72 30.77 43.19

s	a
198	189
170	168
159	158

4735
71.95 9.41 9.42

s	a
106	94
45	49
35	40

483
27.58 27.03 20.12

s	a
216	196
133	131
152	150

493
65.05 34.66 4.11

s	a
233	224
203	202
209	208

503
84.57 11.42 0.85

s	a
128	111
44	48
68	69

506
31.9 38.42 5.48

s	a
231	218
186	184
222	220

516
80.52 21.18 -11.66

s	a
89	81
44	48
94	93

519
26.14 27.47 -20.93

s	a
219	213
201	200
103	109

458
81.27 -2.82 50.57

s	a
223	219
213	211
187	187

468
85.59 0.53 13.71

s	a
183	161
83	84
19	31

471
48.24 38.76 52.89

s	a
212	205
190	189
182	180

4745
78.88 6.83 7.27

s	a
159	137
45	49
34	39

484
37.37 47.07 35.0

s	a
231	215
167	166
183	181

494
75.36 25.98 1.55

s	a
67	61
29	35
31	36

4975
16.85 18.44 8.0

s	a
212	194
141	140
167	165

507
66.84 30.22 -2.16

s	a
235	226
203	202
227	226

517
85.13 14.65 -7.8

s	a
104	92
48	52
115	113

520
30.21 33.46 -28.11

s	a
224	219
210	209
125	129

459
84.24 -3.47 43.99

s	a
76	69
36	41
19	27

4625
20.01 18.13 20.03

s	a
227	209
154	153
107	109

472
70.56 24.44 36.42

s	a
221	216
206	204
198	197

4755
83.91 4.65 5.54

s	a
219	188
34	39
31	36

485
48.35 68.09 51.69

s	a
237	223
185	184
198	197

495
80.36 20.6 0.74

s	a
133	119
74	75
81	82

4985
39.08 26.11 7.32

s	a
227	212
174	172
194	191

508
76.53 22.3 -2.32

s	a
75	68
37	42
62	63

5115
21.02 20.75 -7.74

s	a
172	160
133	132
185	182

521
60.84 22.37 -21.74

s	a
229	225
219	218
151	153

460
87.27 -3.82 34.68

s	a
145	131
90	91
52	57

4635
44.23 20.28 31.41

s	a
237	223
185	183
151	151

473
79.41 16.08 24.88

s	a
81	75
50	53
39	44

476
24.69 13.45 12.92

s	a
235	214
149	148
135	134

486
70.81 31.84 21.81

s	a
238	227
196	195
207	205

496
83.38 16.59 0.56

s	a
161	146
104	103
112	111

4995
50.52 24.42 5.33

s	a
231	219
186	184
203	201

509
80.14 18.89 -2.16

s	a
111	100
65	67
100	99

5125
34.42 24.52 -11.98

s	a
190	180
159	157
201	198

522
69.43 17.51 -17.54

s	a
232	230
227	226
180	181

461
89.83 -3.5 23.57

s	a
176	162
126	125
92	94

4645
57.61 16.81 26.81

s	a
239	227
197	196
169	169

474
83.01 12.23 20.02

s	a
94	85
47	51
37	42

477
26.01 20.75 16.55

s	a
236	219
171	170
158	157

487
76.23 23.0 16.67

s	a
79	72
42	46
40	45

497
22.31 16.96 8.95

s	a
182	168
131	130
139	137

5005
60.27 21.13 3.86

s	a
234	223
195	194
209	208

510
82.78 16.01 -1.66

s	a
136	125
93	94
128	125

5135
45.42 22.37 -11.92

s	a
202	194
178	176
211	209

523
75.59 13.46 -13.72

s	a
86	81
63	65
34	41

462
28.87 7.94 21.39

s	a
193	180
149	147
119	120

4655
65.44 14.13 22.23

s	a
239	231
209	207
186	186

475
86.08 8.64 15.3

s	a
114	101
54	57
40	45

478
30.92 25.96 21.3

s	a
236	223
188	187
176	175

488
80.58 16.31 12.82

s	a
104	93
51	54
47	51

498
28.82 23.9 13.92

s	a
207	196
169	167
175	173

5015
72.98 15.4 2.28

s	a
96	85
36	40
77	77

511
24.9 31.82 -11.79

s	a
161	151
126	125
155	152

5145
57.08 18.07 -10.19

s	a
218	212
203	201
224	222

524
83.46 8.22 -8.43

s	a
110	101
73	75
32	40

463
34.91 13.01 30.34

s	a
209	199
174	172
150	150

4665
73.99 10.71 17.41

s	a
82	75
40	44
33	38

4695
22.18 19.61 14.0

s	a
173	160
127	126
107	107

479
57.71 16.3 18.44

s	a
236	226
204	203
195	194

489
84.8 10.29 8.94

s	a
118	105
57	60
50	53

499
32.48 26.78 17.72

s	a
218	209
188	186
192	191

5025
79.09 11.81 1.81

s	a
125	108
35	40
112	110

512
31.48 45.72 -24.03

s	a
192	184
166	165
188	186

5155
71.22 12.57 -7.54

s	a
70	65
41	45
59	61

5185
21.1 16.22 -5.48

s	a
133	121
88	88
36	44

464
41.88 15.6 37.03

s	a
221	213
194	193
176	175

4675
80.66 7.67 12.85

s	a
127	114
76	78
62	65

4705
38.42 20.53 18.0

s	a
201	192
170	169
154	154

480
72.27 9.91 12.5

s	a
89	80
38	42
40	44

s	a
198	191
176	175
189	187

5225
74.34 9.69 -3.65

s	a
44	46
38	42
75	75

5255
17.54 10.62 -22.32

s	a
148	150
161	159
194	191

535
66.1 0.87 -18.76

s	a
191	196
212	211
230	229

545
83.82 -4.43 -11.84

s	a
0	0
64	66
87	87

548
22.84 -24.12 -22.33

s	a
189	195
212	211
216	215

5513
83.45 -7.29 -4.72

s	a
35	62
96	96
72	75

554
36.49 -25.32 7.54

s	a
168	173
188	187
181	180

5575
74.85 -8.34 1.19

s	a
26	39
49	52
38	43

5605
18.4 -12.08 4.25

s	a
117	145
198	197
189	188

570
74.65 -27.59 -3.69

s	a
213	207
197	195
206	205

5235
81.18 7.05 -2.6

s	a
67	67
60	63
104	102

5265
27.89 11.41 -24.8

s	a
165	167
177	175
205	202

536
72.01 0.23 -15.74

s	a
0	22
36	41
56	58

5395
12.97 -6.93 -16.69

s	a
92	113
152	150
176	174

549
59.54 -14.9 -19.46

s	a
207	210
222	221
224	223

5523
87.49 -4.92 -3.06

s	a
22	63
106	105
78	81

555
39.64 -30.7 8.26

s	a
192	195
207	206
202	201

5585
82.07 -6.04 0.89

s	a
92	98
112	112
97	97

5615
45.56 -10.58 6.08

s	a
157	175
215	214
208	207

571
81.98 -20.25 -2.97

s	a
223	219
212	211
218	217

5245
86.12 4.78 -1.46

s	a
88	87
83	84
124	122

5275
37.21 9.57 -22.78

s	a
190	191
199	197
218	216

537
80.06 -0.05 -10.74

s	a
63	77
101	101
126	125

5405
40.9 -8.09 -18.8

s	a
133	145
176	175
197	195

550
69.49 -11.25 -15.69

s	a
21	38
53	56
50	53

5467
19.78 -12.71 -2.15

s	a
117	131
163	161
143	142

556
63.34 -19.34 5.16

s	a
211	213
221	220
217	216

5595
87.42 -3.71 0.54

s	a
112	117
131	130
116	116

5625
53.1 -9.43 5.52

s	a
180	192
223	222
218	217

572
85.83 -15.21 -2.27

s	a
82	74
40	44
92	91

525
24.05 26.69 -22.78

s	a
133	131
130	129
163	160

5285
55.66 6.76 -17.17

s	a
210	210
215	214
227	225

538
86.06 -0.13 -6.38

s	a
88	99
122	121
147	145

5415
49.52 -7.39 -17.65

s	a
160	169
193	192
210	208

551
76.2 -8.73 -12.3

s	a
61	72
90	91
88	89

5477
36.27 -11.83 -2.42

s	a
152	161
186	184
171	170

557
72.78 -14.34 3.63

s	a
34	51
71	72
62	65

560
27.35 -15.85 1.0

s	a
154	157
168	167
157	156

5635
67.76 -6.91 3.95

s	a
192	202
227	226
221	221

573
87.69 -12.35 -1.44

s	a
96	84
33	38
126	123

526
26.88 40.19 -40.49

s	a
170	168
167	166
192	190

5295
69.59 4.67 -12.31

s	a
0	19
43	47
71	71

539
15.63 -7.89 -22.65

s	a
124	132
151	150
172	170

5425
61.22 -5.96 -14.35

s	a
184	190
207	206
220	218

552
81.99 -6.26 -8.94

s	a
100	107
125	124
123	122

5487
50.5 -9.59 -2.13

s	a
173	180
200	199
188	187

558
78.45 -11.18 2.84

s	a
18	58
97	97
88	89

561
36.75 -25.53 -1.82

s	a
177	179
188	187
179	178

5645
75.43 -5.46 3.0

s	a
66	72
80	81
37	44

574
32.15 -11.43 23.29

s	a
113	98
35	39
160	156

527
31.96 49.58 -53.06

s	a
192	190
190	189
208	206

5305
77.72 3.33 -8.78

s	a
0	0
48	52
94	93

540
17.9 -7.28 -34.51

s	a
166	170
185	183
200	198

5435
74.11 -4.22 -10.27

s	a
0	20
40	44
47	51

5463
13.63 -14.33 -9.57

s	a
142	146
161	159
159	158

5497
64.84 -7.11 -1.64

s	a
192	197
212	211
203	202

559
83.36 -7.99 1.83

s	a
0	66
120	119
112	112

562
44.87 -31.3 -4.43

s	a
189	190
198	197
190	189

5655
79.23 -4.55 2.82

s	a
87	96
116	116
46	55

575
45.64 -20.2 34.09

s	a
168	155
118	117
207	203

528
57.71 32.9 -38.68

s	a
213	212
212	211
222	221

5315
85.31 1.99 -5.15

s	a
0	0
61	63
121	118

541
23.33 -7.26 -43.42

s	a
189	192
203	201
214	212

5445
80.91 -3.11 -7.4

s	a
0	54
99	99
109	108

5473
37.57 -22.9 -13.62

s	a
170	172
184	183
184	182

5507
73.91 -5.36 -1.54

s	a
27	42
57	59
48	52

5535
21.51 -13.77 1.93

s	a
116	139
185	184
180	178

563
70.63 -23.69 -4.65

s	a
204	205
211	210
204	203

5665
84.07 -3.29 2.48

s	a
102	114
142	141
58	66

576
54.79 -25.29 39.06

s	a
198	188
165	163
224	221

529
72.47 20.8 -25.34

s	a
39	44
43	47
57	59

532
17.76 1.32 -9.83

s	a
94	114
153	152
201	198

542
60.9 -9.77 -30.97

s	a
205	207
215	214
223	221

5455
85.45 -2.24 -5.18

s	a
80	102
142	140
151	149

5

s	a
208	210
219	219
184	185

580
86.14 -8.7 15.88

s	a
141	141
145	144
80	85

5767
58.92 -8.86 33.86

s	a
222	222
225	224
138	142

586
88.0 -10.37 42.1

s	a
237	235
233	232
164	166

601
91.61 -6.19 33.89

s	a
216	211
203	202
69	82

611
81.15 -6.6 64.83

s	a
210	212
222	221
217	217

621
87.6 -4.78 0.7

s	a
75	119
184	183
209	207

631
69.55 -26.64 -22.42

s	a
0	0
113	113
177	174

641
41.22 -33.28 -48.92

s	a
156	160
176	174
205	203

651
71.14 -2.36 -17.47

s	a
0	0
56	59
145	141

661
24.53 10.55 -56.44

s	a
65	69
73	75
37	44

5743
29.95 -8.42 20.27

s	a
167	167
171	169
116	118

5777
68.8 -7.9 28.1

s	a
227	227
229	228
159	161

587
89.67 -8.48 33.97

s	a
238	236
232	231
141	145

602
91.13 -7.28 44.71

s	a
197	190
178	176
0	26

612
72.48 -4.19 78.16

s	a
190	194
210	208
203	202

622
82.55 -7.86 0.77

s	a
0	71
158	156
191	188

632
58.65 -33.8 -29.04

s	a
207	209
217	216
229	228

642
86.43 -2.06 -7.13

s	a
114	122
142	141
183	180

652
58.33 -2.72 -24.6

s	a
0	0
38	42
125	122

662
17.68 16.85 -55.36

s	a
94	96
101	101
56	61

5753
41.54 -8.71 24.23

s	a
193	193
196	195
154	154

5787
78.28 -6.26 20.93

s	a
76	75
69	71
22	32

5815
29.46 -2.15 28.48

s	a
236	233
226	225
92	103

603
89.09 -8.26 64.41

s	a
179	172
157	156
0	0

613
65.26 -1.9 77.46

s	a
157	165
187	186
178	177

623
73.69 -11.83 1.09

s	a
0	0
123	122
163	160

633
44.89 -37.06 -34.53

s	a
196	199
210	209
226	225

643
83.82 -2.6 -9.68

s	a
41	62
88	88
141	138

653
36.39 -1.97 -34.77

s	a
222	219
216	215
228	227

663
87.33 3.52 -5.15

s	a
112	113
119	118
73	77

5763
48.67 -8.37 24.3

s	a
208	207
210	209
178	178

5797
83.53 -4.8 15.74

s	a
127	123
119	118
47	55

5825
49.66 -3.8 39.46

s	a
233	228
218	217
28	59

604
86.52 -7.78 81.59

s	a
227	226
224	223
192	192

614
89.04 -2.81 16.42

s	a
121	132
160	158
148	147

624
62.83 -15.9 1.58

s	a
0	0
98	98
139	137

634
35.55 -33.4 -35.34

s	a
148	155
176	175
206	203

644
70.7 -4.77 -18.5

s	a
0	27
49	52
100	99

654
19.93 1.75 -35.57

s	a
216	213
209	208
224	223

664
84.89 4.61 -6.83

s	a
146	147
152	151
112	113

5773
61.76 -7.23 20.37

s	a
218	218
220	219
196	196

5807
87.28 -3.57 11.64

s	a
158	155
151	150
84	89

5835
62.19 -4.55 35.87

s	a
224	217
201	200
0	0

605
81.18 -4.47 97.9

s	a
222	220
218	217
175	176

615
86.63 -3.45 21.4

s	a
81	98
129	128
115	115

625
50.45 -19.64 2.16

s	a
171	186
221	220
233	232

635
85.05 -14.65 -11.44

s	a
115	126
151	149
189	186

645
60.98 -5.46 -24.05

s	a
0	21
36	40
82	82

655
14.23 3.8 -32.61

s	a
198	194
187	186
212	210

665
77.58 7.33 -10.94

s	a
173	173
178	177
146	146

5783
71.74 -5.95 16.1

s	a
96	94
89	90
19	32

581
37.72 -3.7 38.71

s	a
174	171
169	167
109	112

5845
68.67 -4.58 31.61

s	a
215	206
188	186
0	0

606
76.66 -1.89 97.74

s	a
216	213
210	209
158	159

616
83.79 -3.89 26.68

s	a
28	55
85	85
70	72

626
32.17 -22.26 3.03

s	a
142	165
213	212
232	230

636
81.22 -19.71 -16.63

s	a
86	100
129	128
173	170

646
52.41 -5.86 -28.39

s	a
212	214
221	220
234	233

656
87.98 -1.25 -7.6

s	a
164	159
148	147
185	182

666
63.96 11.52 -16.73

s	a
190	190
194	192
167	167

5793
77.69 -4.9 12.95

s	a
136	134
134	133
0	26

582
54.79 -8.91 60.24

s	a
199	196
195	194
151	151

5855
78.48 -4.01 22.97

s	a
234	232
231	231
193	193

607
91.38 -3.8 19.07

s	a
202	198
193	192
126	128

617
77.88 -4.32 35.15

s	a
1	27
44	48
35	40

627
15.28 -17.11 1.84

s	a
91	133
200	199
228	226

637
75.27 -26.5 -23.94

s	a
17	52
86	86
138	135

647
34.75 -5.28 -35.43

s	a
193	196
209	207
232	230

657
83.2 -2.01 -13.52

s	a
124	117
102	102
149	146

667
47.03 15.97 -22.51

s	a
207	207
210	209
189	189

5803
83.7 -3.59 9.8

s	a
172	173
180	179
0	30

583
70.95 -15.83 75.09

s	a
211	209
208	207
172	172

5865
83.17 -3.42 18.45

s	a
233	231

s	a
231	221
194	193
221	219

671
82.53 16.79 -8.09

s	a
184	167
116	115
158	155

681
57.57 32.02 -10.79

s	a
232	224
206	205
211	209

691
85.19 9.79 1.16

s	a
230	208
142	141
162	160

701
69.01 35.86 4.38

s	a
211	181
39	44
58	60

711
47.41 65.38 35.14

s	a
229	214
173	172
133	134

721
75.55 17.19 28.95

s	a
121	108
63	65
14	25

731
33.79 23.65 38.6

s	a
240	222
171	170
4	41

7409
75.41 17.95 77.39

s	a
171	150
71	73
86	86

7419
44.75 42.81 13.05

s	a
226	216
194	192
211	209

7429
81.68 13.93 -4.06

s	a
225	209
166	165
206	203

672
74.94 27.06 -11.4

s	a
157	138
73	74
121	119

682
43.62 40.01 -10.34

s	a
227	217
194	192
200	199

692
81.55 13.12 1.28

s	a
213	188
99	99
124	122

702
57.18 47.35 9.04

s	a
249	237
206	204
174	174

712
86.05 12.69 21.88

s	a
213	195
142	141
88	91

722
65.78 23.69 39.99

s	a
100	89
49	52
12	23

732
26.94 21.58 32.15

s	a
253	232
166	165
117	119

7410
76.46 29.19 39.0

s	a
159	136
33	38
67	67

7420
36.46 52.33 13.73

s	a
219	206
170	168
194	192

7430
74.88 21.51 -5.14

s	a
218	198
138	137
190	186

673
67.4 36.81 -13.67

s	a
124	107
35	40
81	80

683
30.12 41.79 -5.48

s	a
216	202
167	166
177	175

693
73.48 19.51 2.27

s	a
186	161
56	59
78	78

703
44.75 53.53 18.54

s	a
252	237
193	192
151	152

713
83.08 17.98 29.88

s	a
193	173
113	112
47	55

723
56.1 28.56 48.7

s	a
240	236
228	227
196	196

7401
91.04 0.65 17.29

s	a
227	210
162	160
89	93

7411
72.07 19.79 47.44

s	a
102	89
21	28
46	49

7421
22.82 37.21 6.7

s	a
209	191
143	141
174	171

7431
66.9 29.09 -5.65

s	a
206	182
98	98
163	160

674
56.96 48.95 -14.61

s	a
230	222
202	201
216	215

684
84.29 11.91 -3.3

s	a
203	188
145	143
157	155

694
66.39 24.17 2.88

s	a
162	139
38	42
49	52

704
37.2 50.87 26.07

s	a
254	234
176	174
121	123

714
78.79 25.03 39.97

s	a
155	137
75	76
0	16

724
41.93 31.52 52.19

s	a
236	231
219	218
161	163

7402
88.1 -0.28 30.79

s	a
209	188
120	120
49	57

7412
60.05 31.69 52.72

s	a
241	232
212	211
220	218

7422
87.69 11.18 0.04

s	a
191	170
103	102
141	139

7432
55.09 39.4 -4.9

s	a
182	157
42	46
121	119

675
43.37 60.03 -10.3

s	a
225	215
188	187
208	206

685
80.22 16.18 -4.9

s	a
178	160
104	104
120	118

695
53.13 31.35 4.86

s	a
242	234
215	214
223	221

705
88.56 10.82 -0.25

s	a
250	226
149	148
74	80

715
71.9 34.62 55.33

s	a
130	114
57	60
0	14

725
34.05 29.88 44.99

s	a
234	225
205	204
125	128

7403
83.73 3.03 43.6

s	a
217	194
120	120
38	49

7413
61.0 34.35 58.31

s	a
229	203
105	105
143	140

7423
61.22 51.87 3.89

s	a
177	154
67	69
113	111

7433
45.63 48.72 -1.87

s	a
163	138
0	4
90	88

676
35.61 60.62 -2.34

s	a
219	206
174	172
199	197

686
76.0 19.96 -6.11

s	a
149	131
70	71
84	84

696
40.71 35.19 8.26

s	a
244	232
199	198
211	209

706
84.81 17.71 0.54

s	a
241	214
123	122
18	36

716
64.86 42.45 68.99

s	a
231	223
206	205
187	186

726
84.66 6.86 12.93

s	a
243	234
212	211
38	63

7404
85.88 -0.23 79.65

s	a
191	170
100	100
23	36

7414
52.91 33.6 55.5

s	a
228	197
57	60
126	124

7424
53.71 68.5 2.91

s	a
161	140
51	54
95	94

7434
39.85 48.61 0.61

s	a
229	223
210	209
223	222

677
86.34 8.45 -4.0

s	a
198	181
135	133
169	167

687
63.75 28.87 -8.1

s	a
131	114
53	56
63	65

697
33.86 34.93 11.28

s	a
246	228
176	174
193	191

707
79.07 28.23 2.17

s	a
222	195
95	95
0	0

717
56.57 47.76 75.6

s	a
224	213
189	187
163	162

727
79.28 10.07 18.15

s	a
236	224
193	192
0	0

7405
80.3 4.73 96.74

s	a
231	219
189	188
177	176

7415
80.41 13.94 12.04

s	a
193	166
46	49
97	96

7425
45.19 60.27 7.68

s	a
138	119
33	38
81	80

7435
32.61 47.06 -1.46

s	a
226	218
201	200
219	217

678
83.64 11.14 -5.39

s	a
181	163
107	107
148	145

688
54.92 34.31 -9.26

s	a
239	230
208	207
215	213

698
86.42 12.27 0.8

s	a
246	222
143	142
166	164

708
71.38 41.49 5.76

s	a
207	181
82	83
0	0

718
51.92 48.44 70.18

s	a
212	200
168	166
135	135

728
72.48 13.58 23.58

s	a
235	221
181	179
0	0

7406
77.04 10.71 93.33

s	a
231	204
106	105
86	87

7416
60.54 48.57 35.66

s	a
---	---

s	a
181	170
145	143
192	188

7439
64.82 20.37 -19.14

s	a
56	53
30	35
49	52

7449
15.58 15.5 -7.35

s	a
55	97
153	152
186	183

7459
58.91 -21.28 -25.96

s	a
0	5
95	95
137	134

7469
35.52 -23.4 -33.83

s	a
53	125
210	209
134	137

7479
75.18 -54.73 25.82

s	a
106	128
170	169
77	84

7489
64.06 -34.4 40.65

s	a
237	235
231	231
208	207

7499
91.94 -1.02 12.34

s	a
220	207
173	172
114	116

7509
74.38 12.31 37.2

s	a
93	88
73	74
60	63

7519
32.95 7.12 11.2

s	a
192	187
178	177
167	166

7529
73.78 3.49 7.43

s	a
160	149
122	122
168	165

7440
56.58 21.32 -18.77

s	a
186	186
193	192
220	218

7450
78.34 1.58 -14.61

s	a
0	0
142	141
203	200

7460
51.11 -43.1 -48.09

s	a
0	47
102	101
129	127

7470
38.68 -22.37 -24.0

s	a
0	92
198	196
123	126

7480
69.59 -66.15 23.56

s	a
103	116
145	143
64	71

7490
55.82 -25.71 37.53

s	a
228	225
220	219
192	192

7500
88.07 -0.5 15.01

s	a
203	187
143	141
67	73

7510
64.43 18.09 48.57

s	a
235	224
196	195
185	184

7520
82.54 13.14 11.05

s	a
166	160
150	148
136	135

7530
63.32 4.61 9.76

s	a
155	140
98	98
197	193

7441
51.39 37.17 -43.12

s	a
134	143
165	164
225	222

7451
67.46 0.52 -34.25

s	a
0	60
136	135
197	194

7461
52.11 -19.76 -42.92

s	a
144	170
223	222
220	219

7471
83.92 -25.84 -6.51

s	a
0	76
188	186
84	92

7481
65.31 -74.03 37.42

s	a
110	116
129	128
53	61

7491
51.44 -16.01 37.94

s	a
224	219
210	209
180	180

7501
85.0 1.31 16.74

s	a
177	159
107	107
22	36

7511
52.52 24.03 54.43

s	a
202	192
170	168
159	158

7521
72.42 10.75 10.02

s	a
130	124
110	110
93	94

7531
48.22 6.01 12.6

s	a
139	121
54	57
188	183

7442
40.49 52.43 -55.39

s	a
127	131
144	143
220	217

7452
61.02 8.64 -41.33

s	a
0	48
93	93
150	146

7462
37.05 -8.3 -38.92

s	a
107	137
192	191
191	190

7472
72.66 -27.19 -7.93

s	a
0	69
168	166
91	96

7482
59.08 -64.92 26.39

s	a
193	195
204	203
138	140

7492
80.33 -11.91 31.89

s	a
212	205
190	189
151	151

7502
78.37 3.39 22.81

s	a
161	144
89	90
9	26

7512
46.04 26.54 52.13

s	a
188	170
117	117
102	103

7522
57.08 27.28 20.63

s	a
100	95
80	81
62	65

7532
35.93 6.63 13.62

s	a
215	213
214	212
231	229

7443
86.12 2.8 -8.33

s	a
119	130
157	156
216	213

7453
63.9 -1.65 -34.63

s	a
0	28
56	59
93	92

7463
21.92 -6.92 -27.68

s	a
39	96
161	160
147	146

7473
59.9 -36.4 -2.58

s	a
33	61
94	94
54	59

7483
35.25 -28.06 17.0

s	a
185	186
195	194
146	147

7493
77.27 -9.99 23.52

s	a
171	165
156	155
115	116

7503
65.15 0.75 23.87

s	a
228	216
185	184
170	170

7513
78.97 14.09 13.65

s	a
175	157
102	102
96	96

7523
51.89 29.59 16.93

s	a
73	70
55	58
41	46

7533
25.13 6.31 12.21

s	a
185	184
186	185
223	220

7444
76.59 5.02 -18.43

s	a
98	112
141	140
185	182

7454
57.07 -6.15 -28.2

s	a
174	187
218	217
218	217

7464
84.2 -14.75 -5.11

s	a
0	53
130	129
144	142

7474
48.12 -35.79 -18.38

s	a
0	48
92	92
64	67

7484
33.72 -32.96 8.72

s	a
155	160
175	174
140	140

7494
69.42 -12.2 15.78

s	a
143	135
114	113
86	88

7504
50.53 9.13 20.0

s	a
217	203
168	166
143	143

7514
73.05 16.15 19.93

s	a
170	151
90	90
79	80

7524
48.05 32.4 21.78

s	a
215	213
212	211
201	200

7534
85.06 -0.03 5.69

s	a
163	160
159	157
197	194

7445
66.9 7.59 -19.27

s	a
61	74
93	94
178	174

7455
40.86 9.72 -49.27

s	a
80	129
200	199
190	189

7465
74.02 -36.89 -5.5

s	a
80	99
134	133
136	135

7475
52.39 -18.32 -7.14

s	a
222	224
230	229
216	215

7485
90.59 -4.56 5.97

s	a
127	130
142	140
44	55

7495
56.45 -15.57 47.69

s	a
129	120
94	94
60	64

7505
43.36 11.61 25.21

s	a
204	189
146	145
117	118

7515
66.11 19.87 24.72

s	a
160	146
110	109
88	89

7525
51.43 18.68 20.62

s	a
193	190
187	186
170	169

7535
76.23 -0.02 9.54

s	a
147	144
140	139
207	204

7446
61.14 13.71 -33.93

s	a
110	113
121	121
183	180

7456
52.23 7.77 -34.31

s	a
0	48
179	178
194	192

7466
63.87 -53.53 -23.38

s	a
0	46
84	85
90	90

7476
31.94 -22.26 -10.21

s	a

s	a
156	155
158	157
155	154

7539
65.08 -1.29 1.41

s	a
109	109
110	109
115	114

7540
46.58 0.55 -3.07

s	a
221	221
226	225
230	229

7541
89.71 -1.29 -2.8

s	a
172	176
191	189
199	197

7542
76.11 -5.44 -6.51

s	a
162	164
172	171
182	180

7543
70.08 -2.16 -6.38

s	a
132	135
145	144
158	156

7544
59.62 -2.68 -8.65

s	a
80	86
98	98
114	113

7545
40.58 -3.64 -11.56

s	a
59	66
76	77
92	92

7546
31.56 -3.57 -11.83

s	a
31	41
46	50
59	61

7547
18.3 -3.26 -10.49

s	a
0	39
167	165
216	213

801
60.83 -39.8 -40.09

s	a
92	143
221	220
71	85

802
78.87 -57.29 59.31

s	a
254	254
231	231
2	54

803
92.5 -1.61 90.12

s	a
254	254
160	158
68	76

804
81.25 50.07 69.86

s	a
254	254
86	87
94	94

805
68.3 76.9 43.1

s	a
254	225
21	28
170	166

806
58.7 86.34 -14.85

s	a
212	181
6	14
176	172

807
48.86 77.56 -34.48

s	a
0	56
174	173
150	150

808
61.52 -61.15 -2.58

s	a
225	225
227	227
0	46

809
88.18 -15.47 87.87

s	a
254	254
206	205
17	52

810
88.21 18.62 87.02

s	a
254	254
117	117
81	84

811
73.13 66.63 55.63

s	a
254	234
51	54
132	129

812
61.12 81.69 11.51

s	a
232	199
20	27
173	169

813
53.0 80.2 -25.86

s	a
124	116
96	97
205	201

814
48.02 30.84 -53.49

s	a
138	131
117	117
74	78

871
50.73 3.72 26.91

s	a
141	133
116	115
76	79

872
50.73 5.76 25.98

s	a
143	134
115	114
78	81

873
50.67 7.38 24.88

s	a
144	135
111	111
78	80

874
49.88 9.9 23.96

s	a
147	136
107	107
78	80

875
49.22 13.54 23.12

s	a
149	136
99	99
66	69

876
47.06 18.47 27.37

s	a
145	145
149	148
153	152

877
61.73 -0.91 -2.59

s	a
136	132
125	124
111	111

8003
53.35 2.53 9.23

s	a
150	141
119	118
105	105

8021
52.98 11.06 12.81

s	a
151	139
107	107
120	119

8062
50.42 19.34 -0.01

s	a
135	129
116	116
138	136

8100
51.5 10.56 -9.01

s	a
92	103
126	125
145	143

8201
50.9 -8.78 -14.35

s	a
109	118
141	140
138	137

8281
56.3 -12.05 -2.59

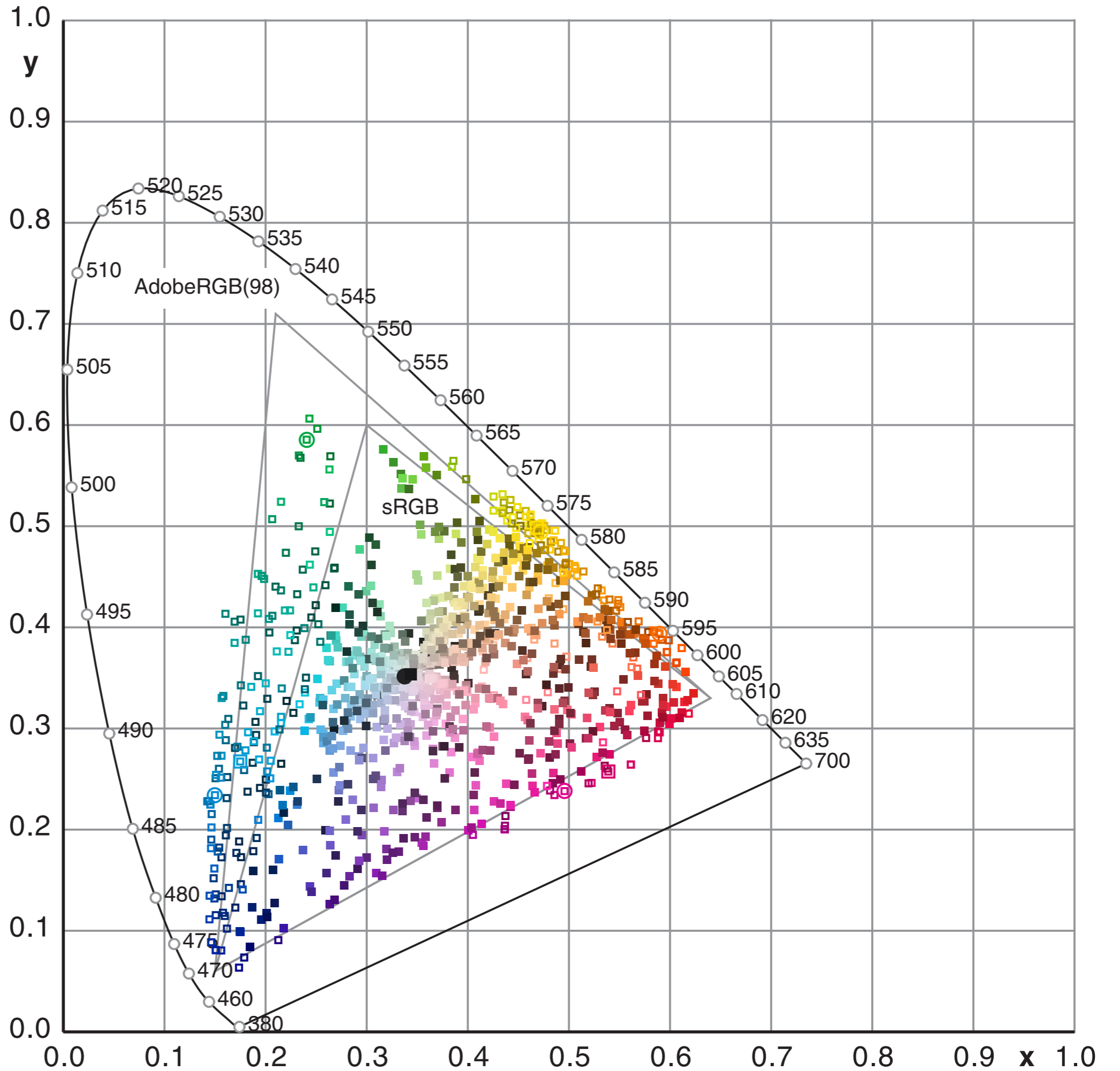
s	a
122	126
138	137
110	111

8321
55.82 -10.32 13.11

Spot colors in the CIE chromaticity diagram

For sRGB

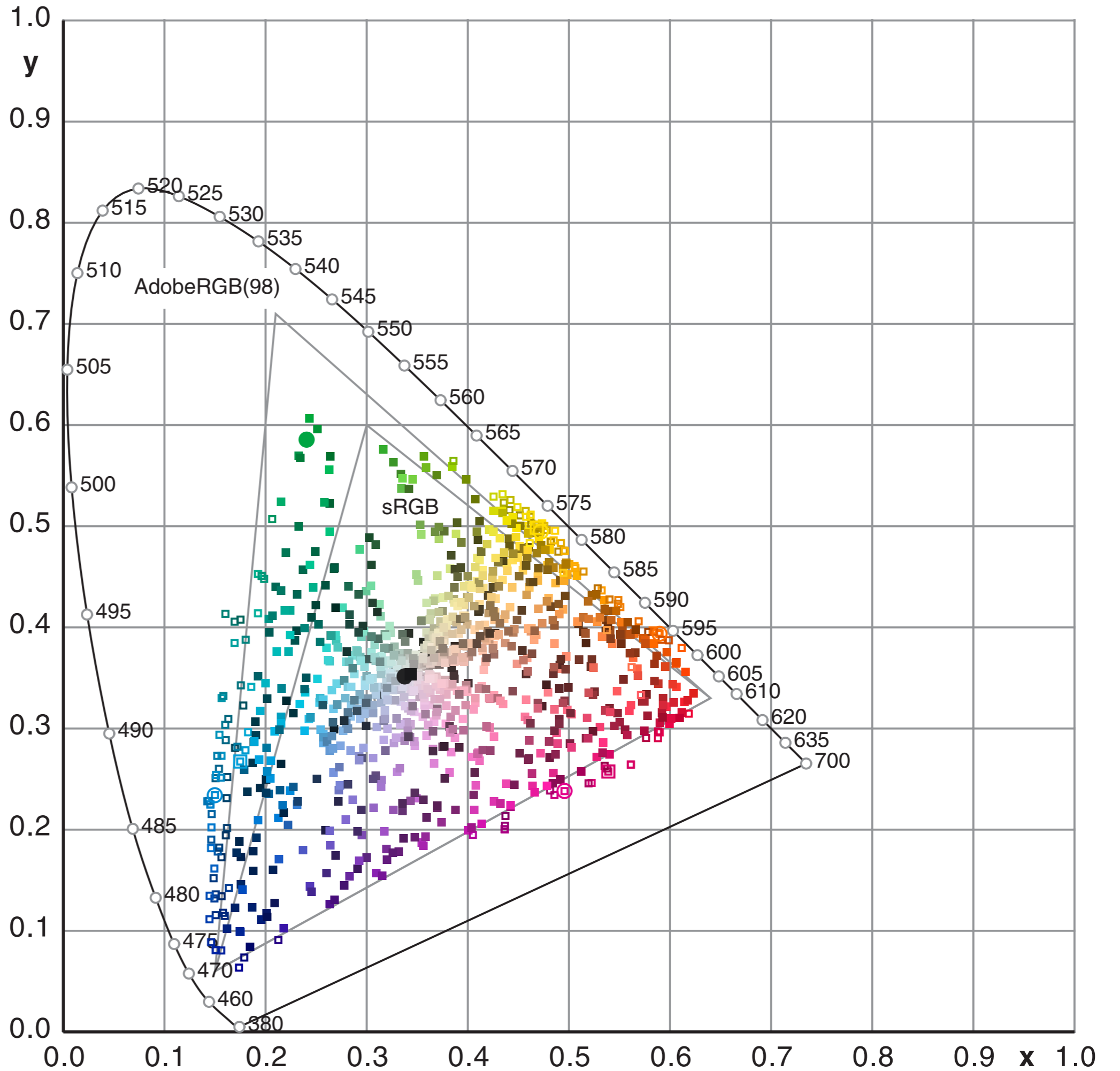
- | | |
|--------------|--------------|
| Filled | In gamut |
| Stroked | Out of gamut |
| Small square | Spot color |
| Big square | CMYK |
| Big circle | CMYKOG |



Spot colors in the CIE chromaticity diagram

For AdobeRGB(98)

- | | |
|--------------|-------------------|
| Filled | In gamut |
| Stroked | Out of gamut |
| Small square | Spot color |
| Big square | CMYK |
| Big circle | CMYKOG Hexachrome |



OptiRGB

Primaries in the table

Gamma=2.2

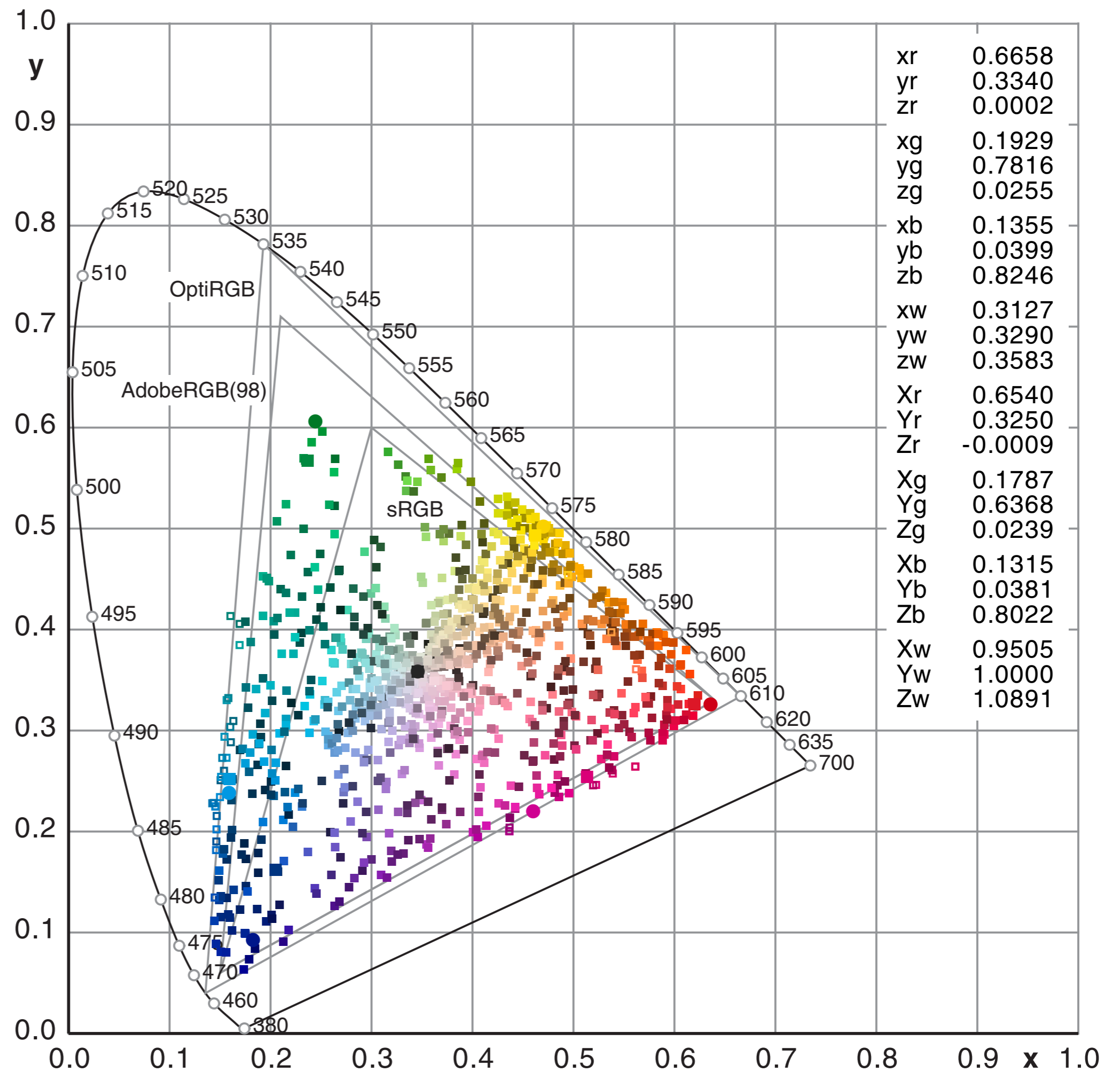
D65

Spot colors and printer inks in the CIE chromaticity diagram

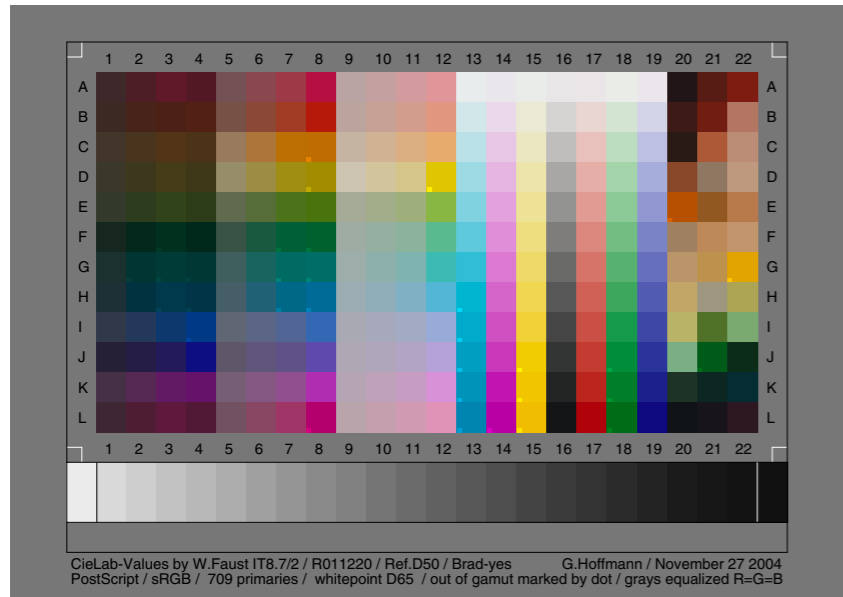
For OptiRGB

Filled In gamut
 Stroked Out of gamut

Square Spot color
 Big Square ISO Coated CMYK
 Big Circle Inkjet Mutoh RJ 6100



xr	0.6658
yr	0.3340
zr	0.0002
xg	0.1929
yg	0.7816
zg	0.0255
xb	0.1355
yb	0.0399
zb	0.8246
xw	0.3127
yw	0.3290
zw	0.3583
Xr	0.6540
Yr	0.3250
Zr	-0.0009
Xg	0.1787
Yg	0.6368
Zg	0.0239
Xb	0.1315
Yb	0.0381
Zb	0.8022
Xw	0.9505
Yw	1.0000
Zw	1.0891



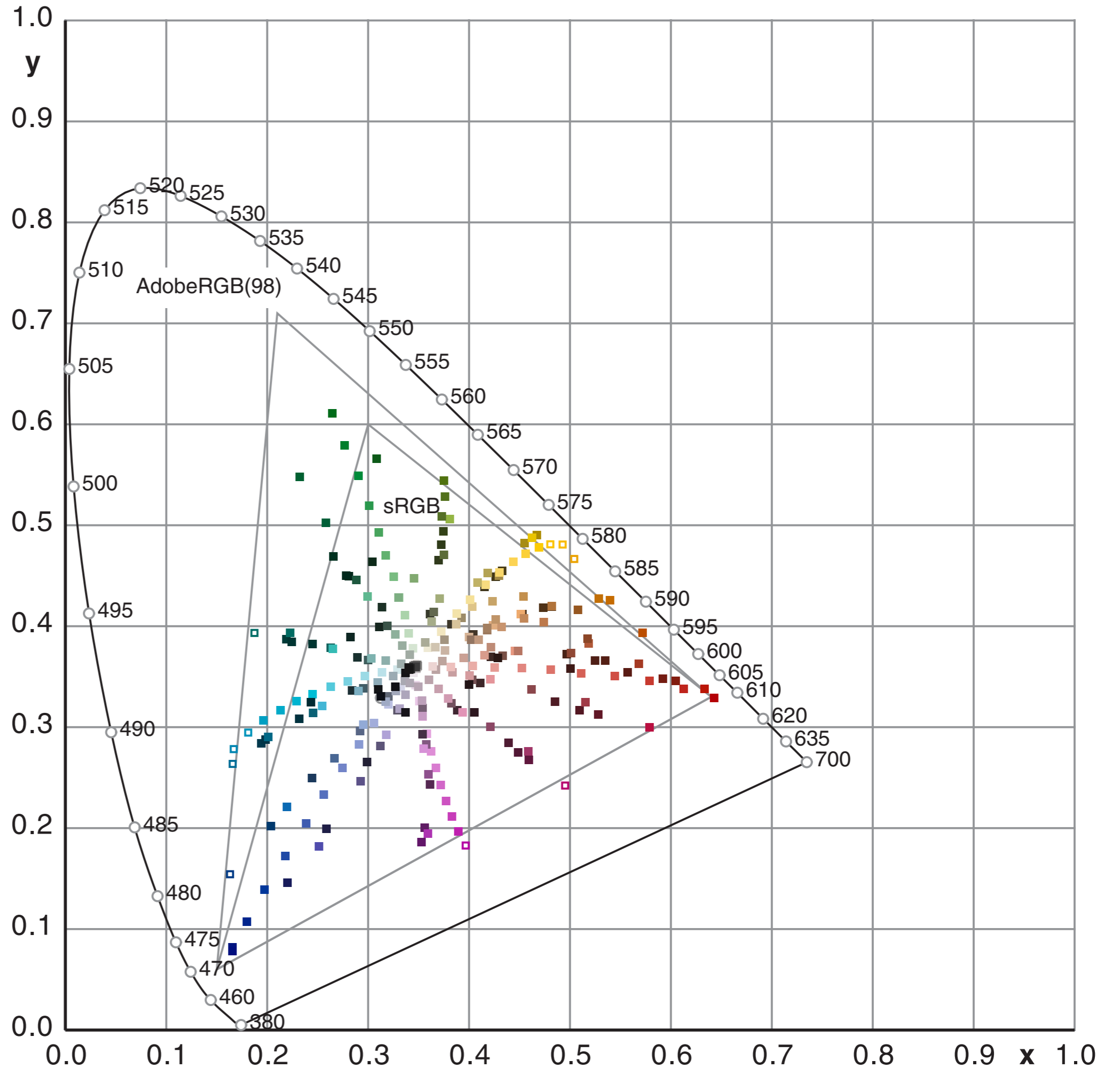
The target above, which is used in many docs by the author, was made by the reference file for a real target, using measured Lab values.

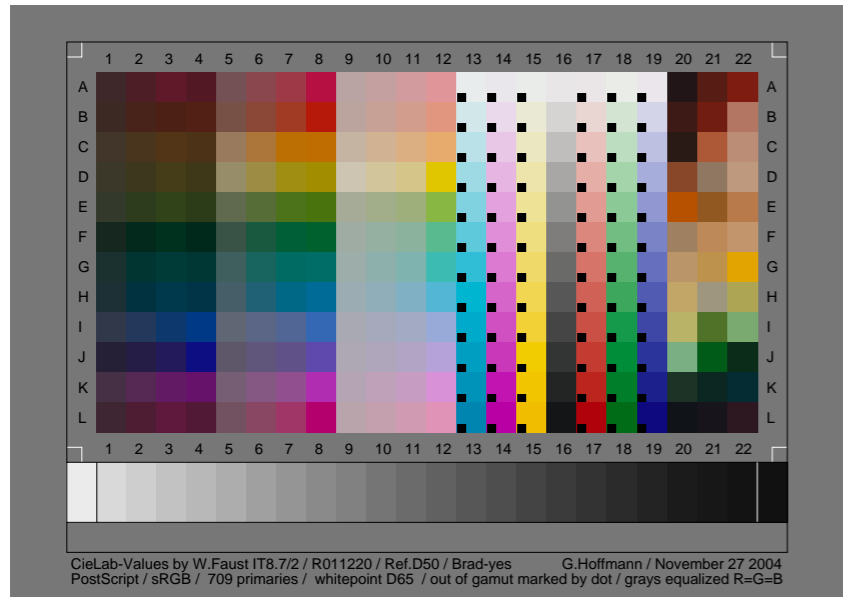
The chromaticity diagram shows these measured Lab values.

IT8.7/2 colors in the CIE chromaticity diagram

For AdobeRGB(98)

- Filled In gamut
- Stroked Out of gamut
- Small square Target color





The target above, which is used in many docs by the author, was made by the reference file for a real target, using measured Lab values.

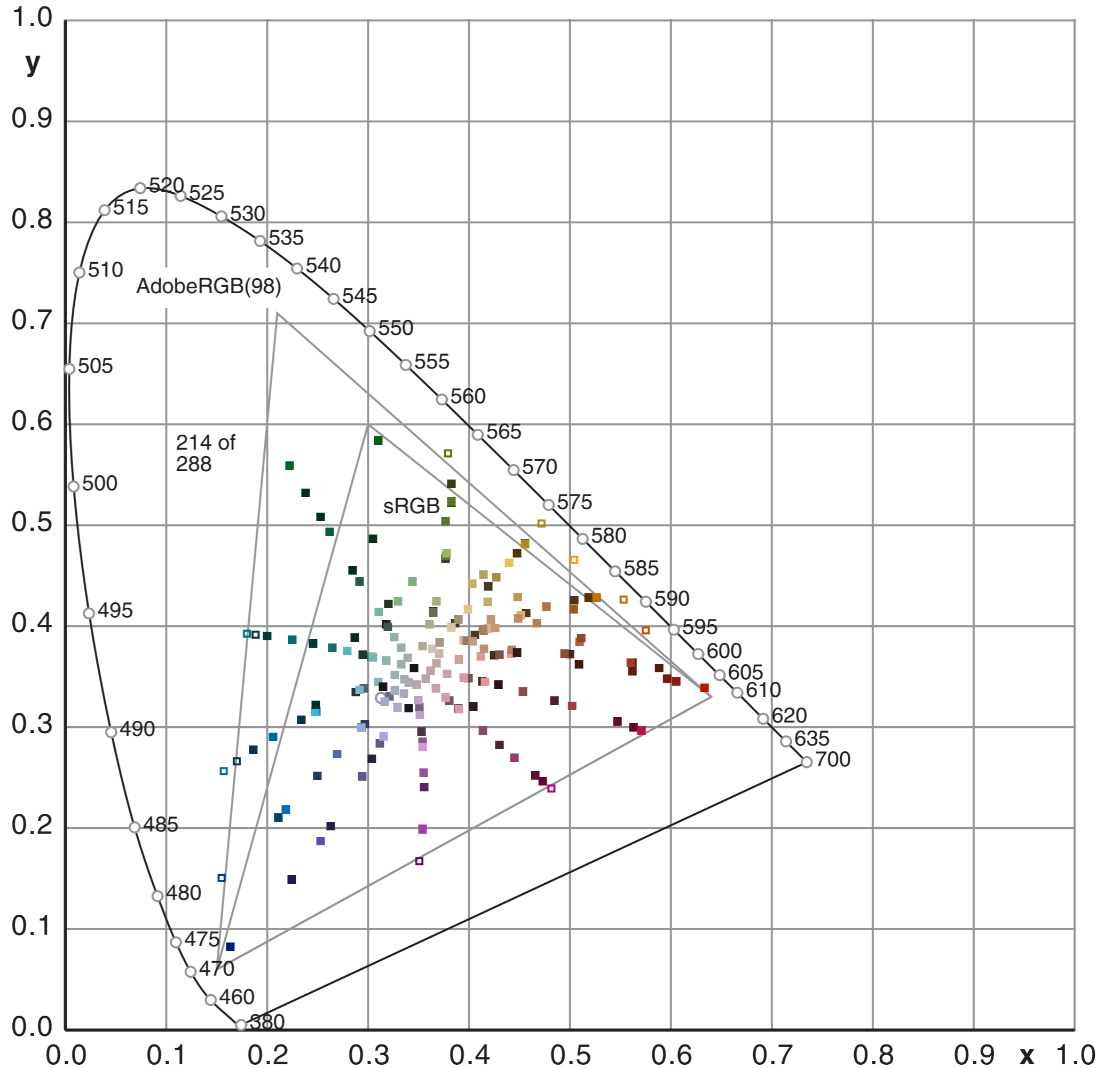
The chromaticity diagram shows a subset of 214 of 288 IT8.7/2 colors according to the standard.

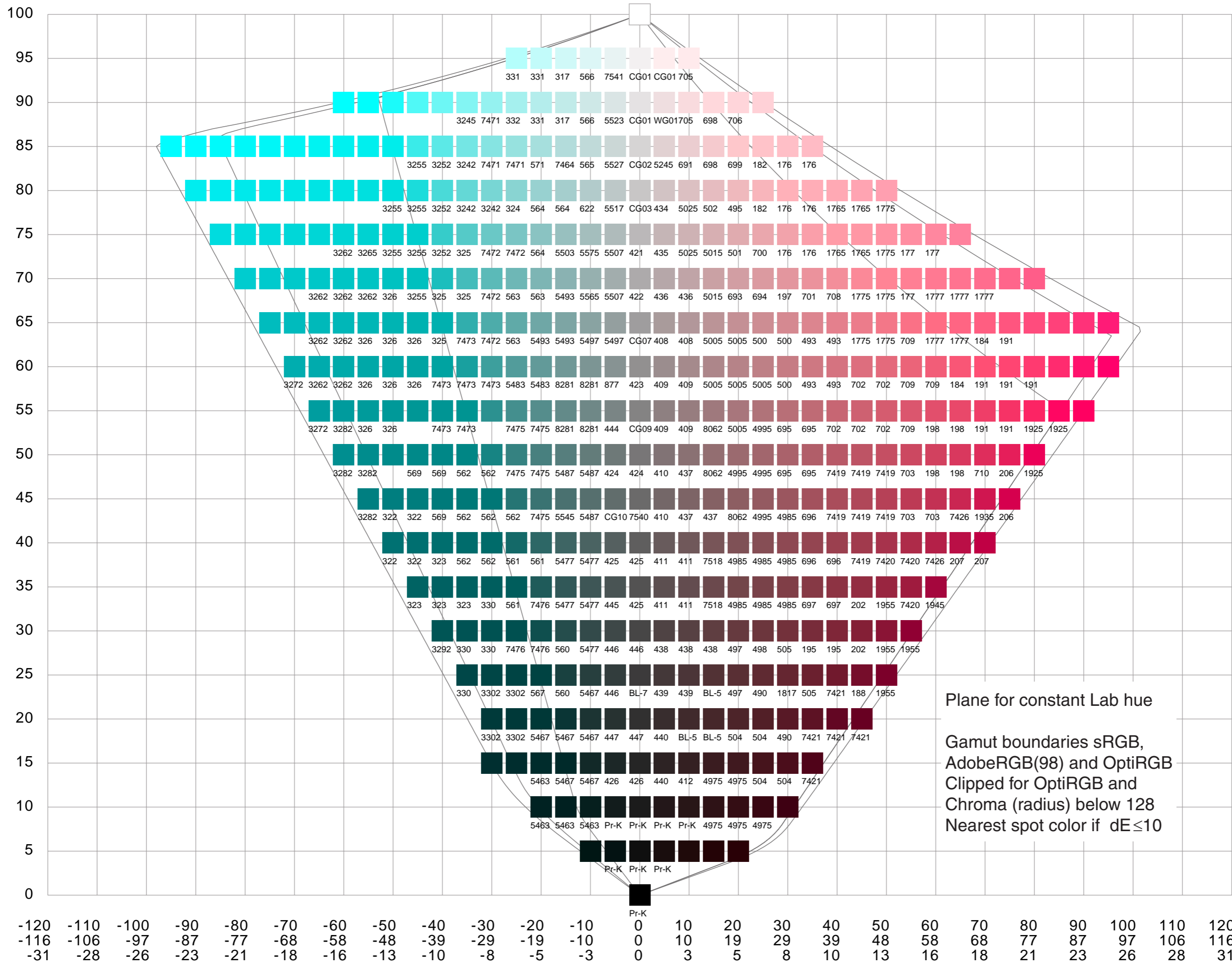
For the remaining colors GS0, GS23 and six step wedges (marked by a black square in the target) reference values are not available.

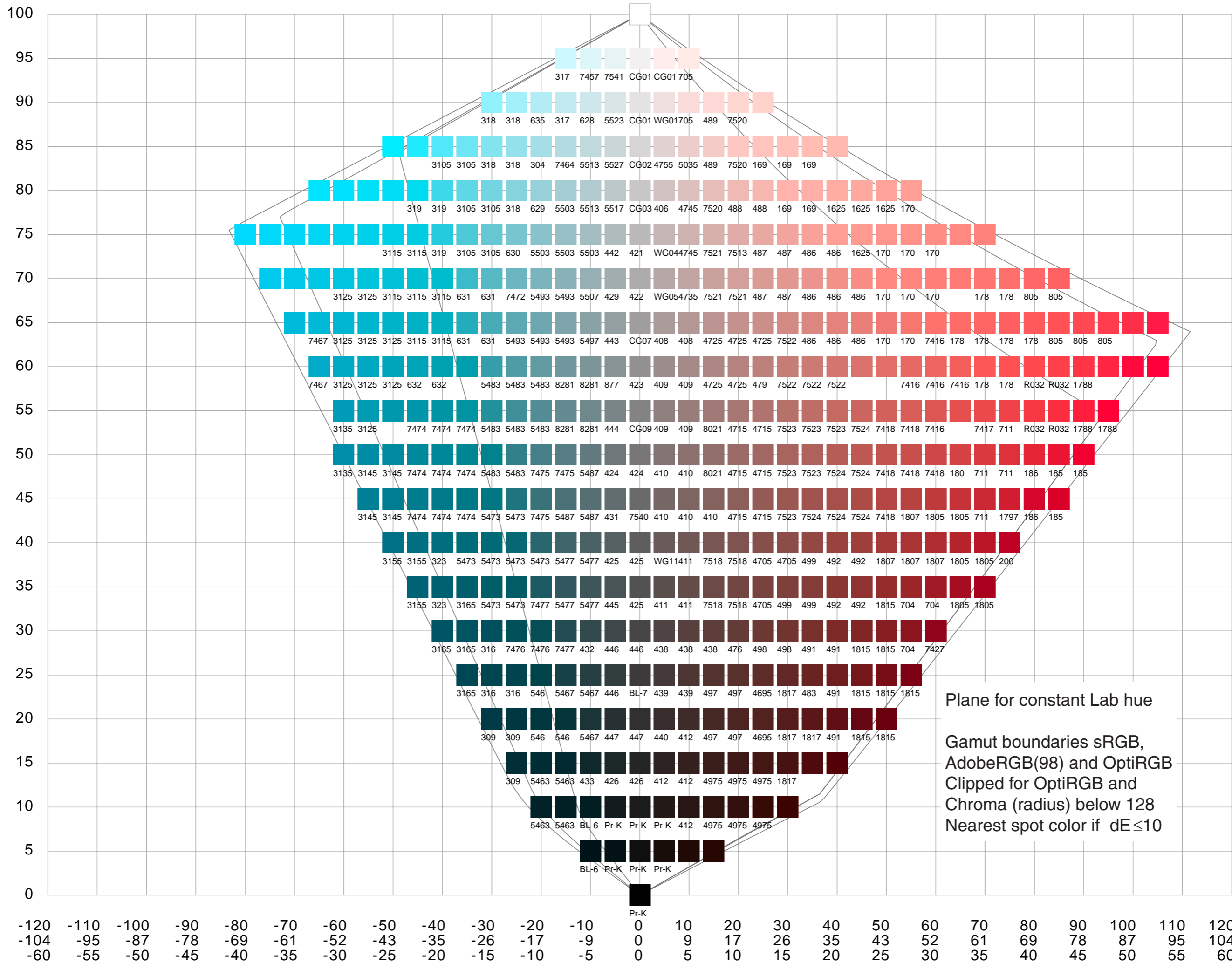
IT8.7/2 colors in the CIE chromaticity diagram

For AdobeRGB(98)

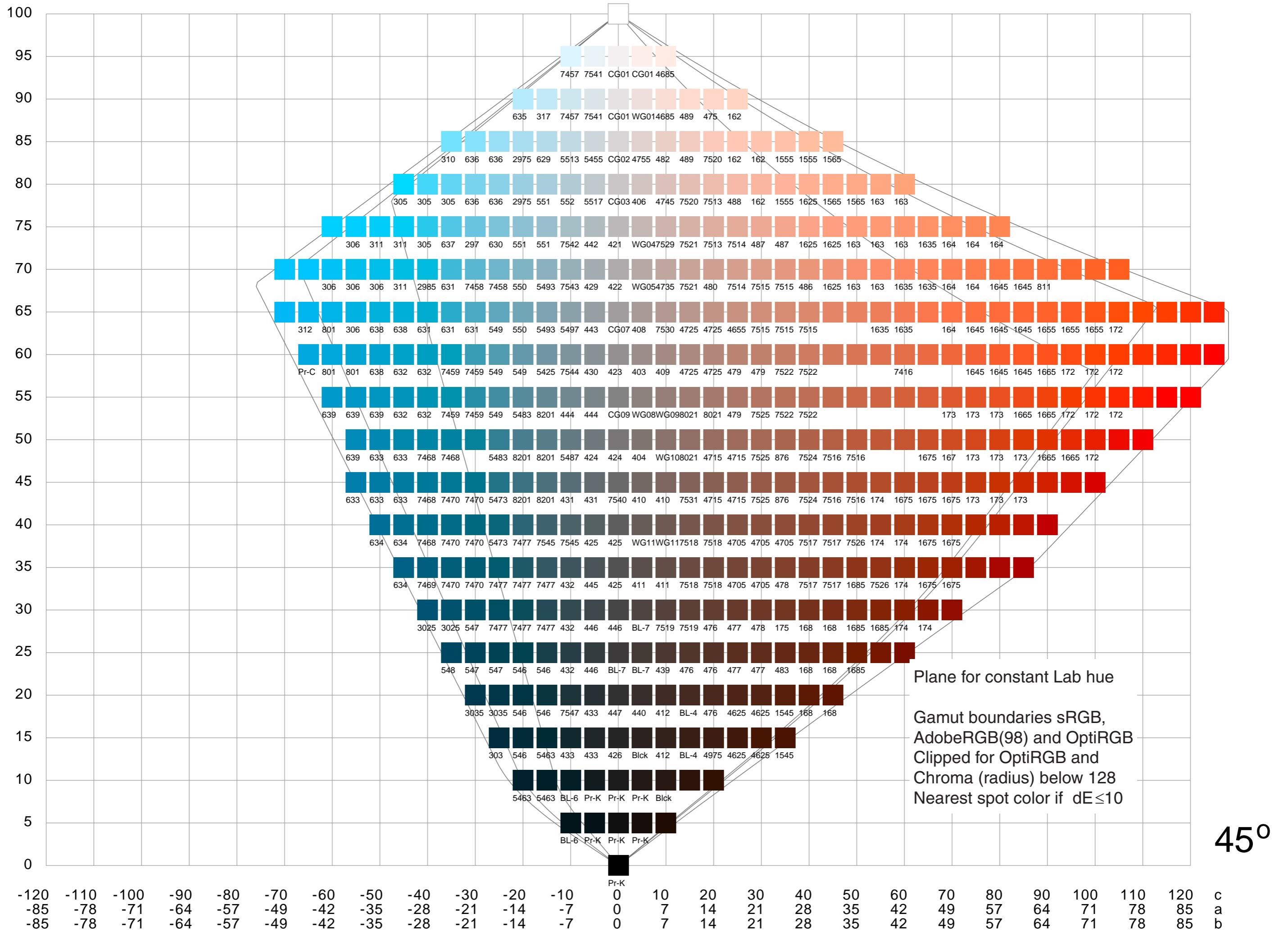
- Filled In gamut
- Stroked Out of gamut
- Small square Target color

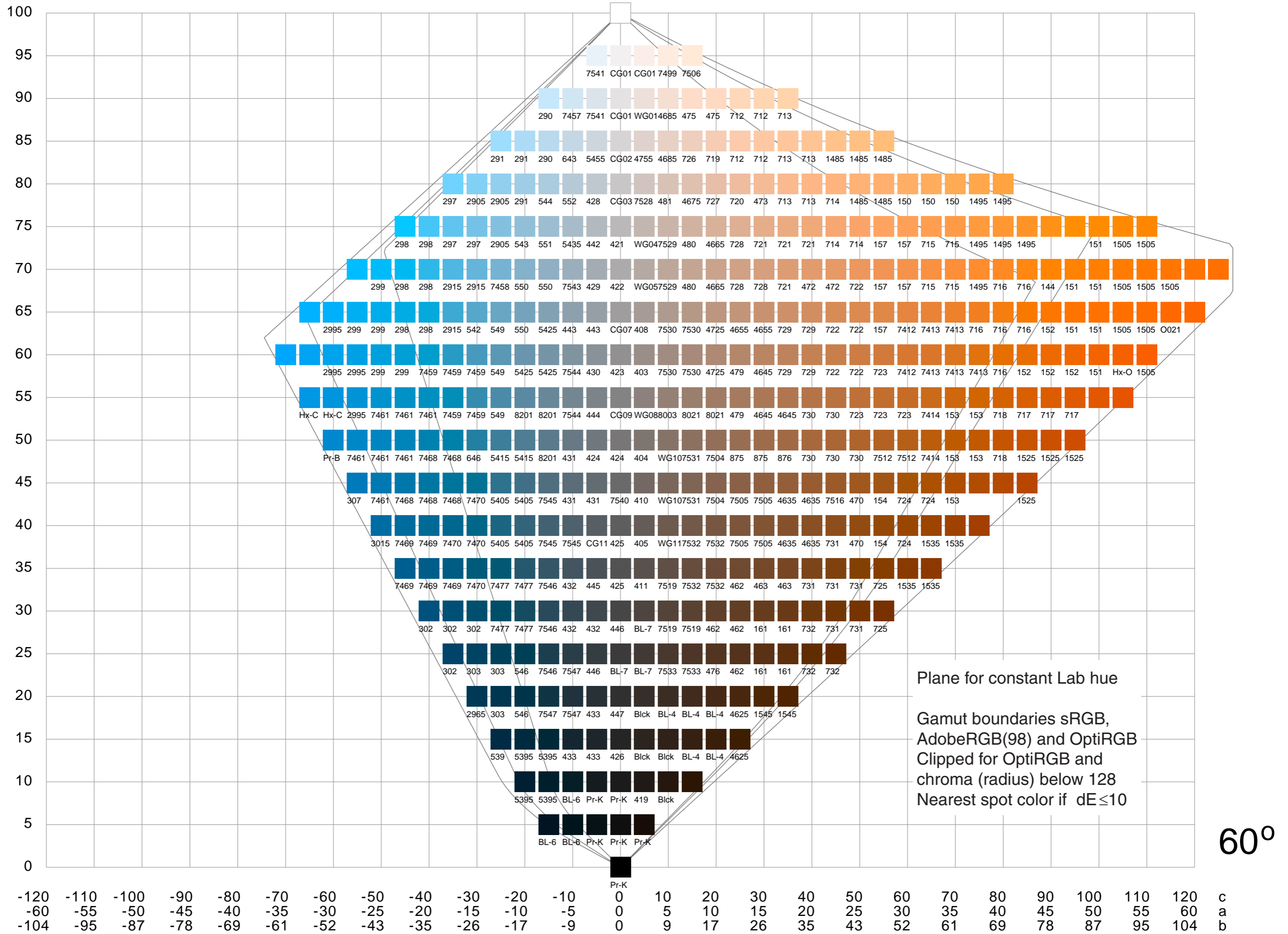


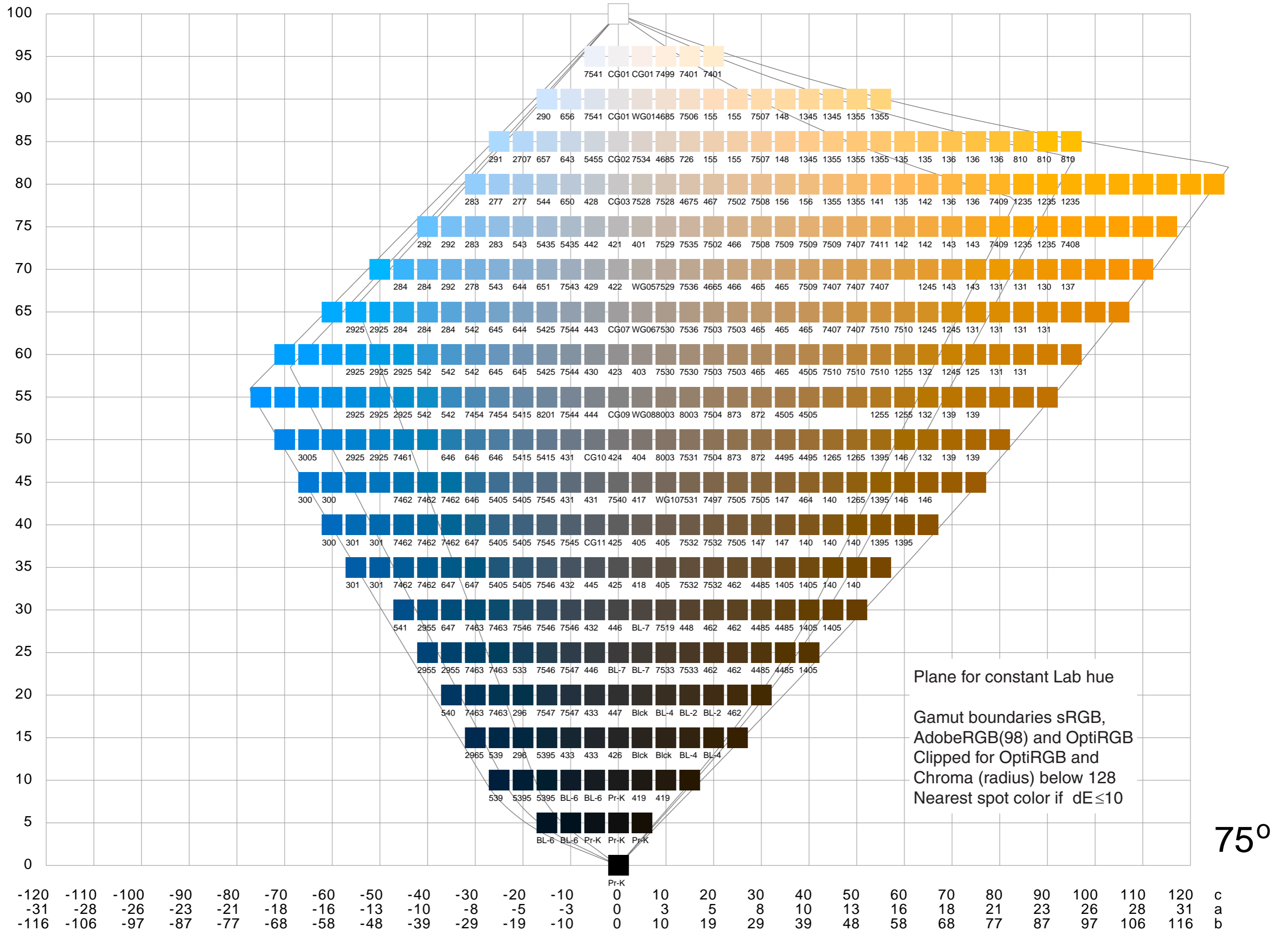


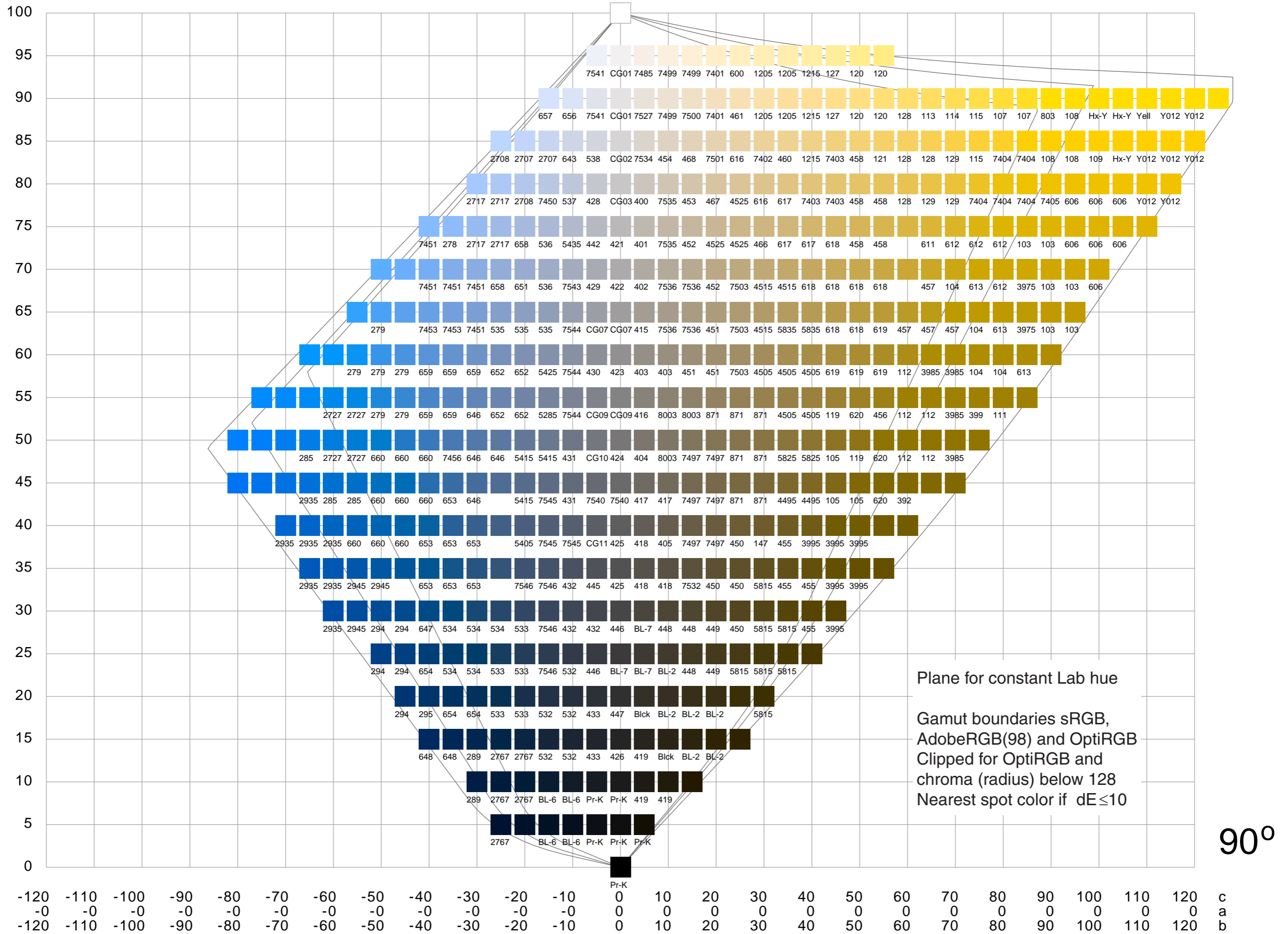


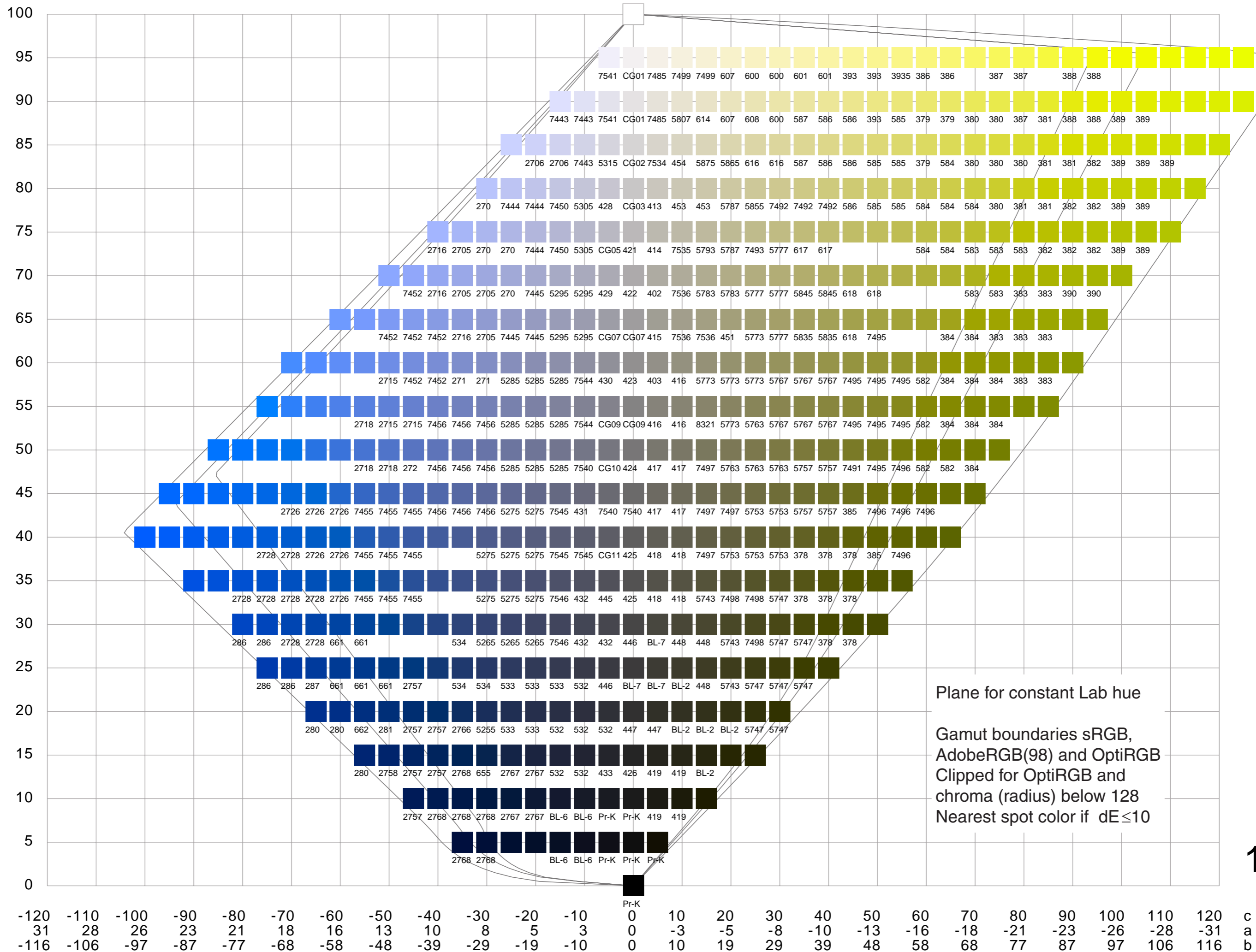
30°



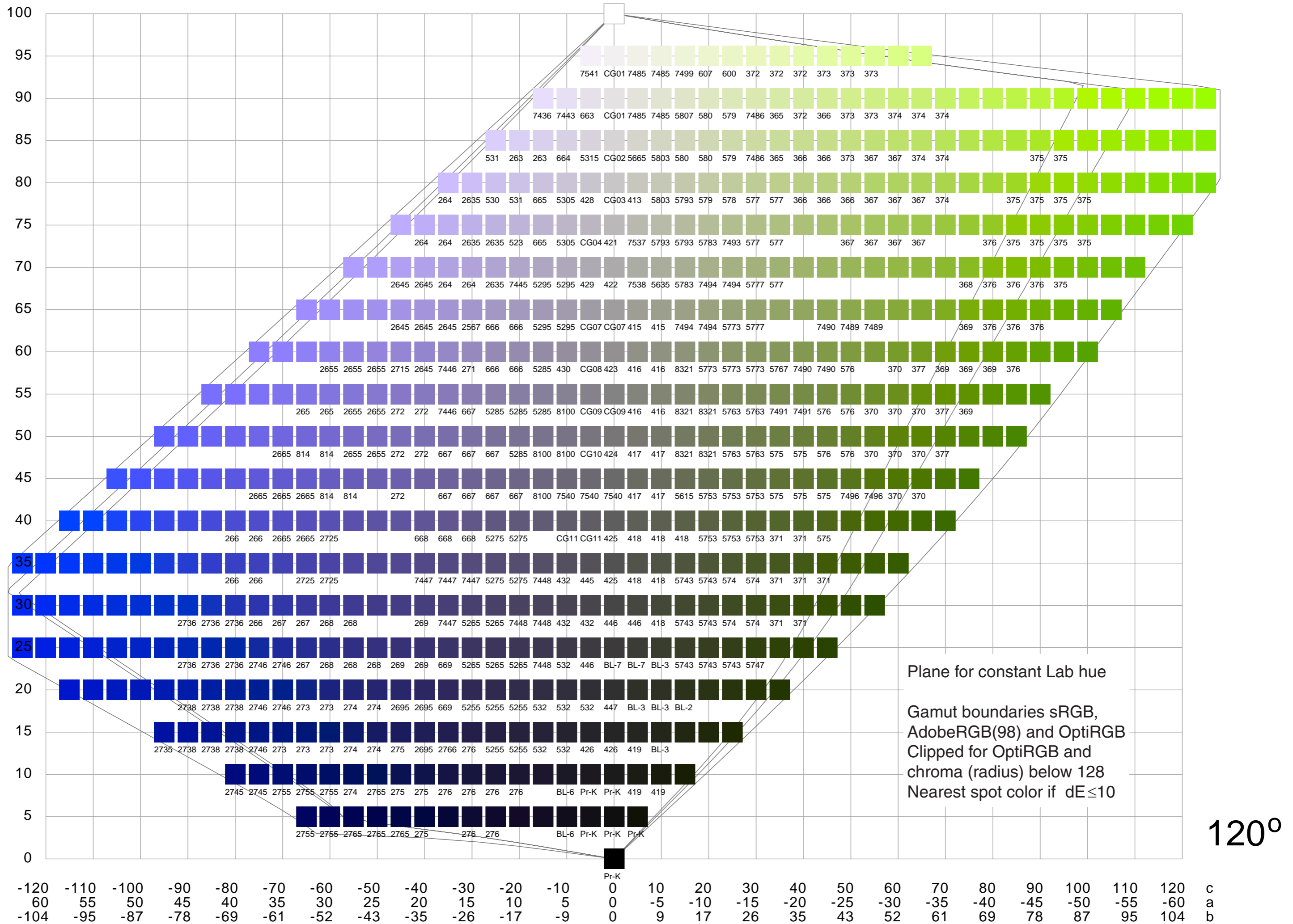


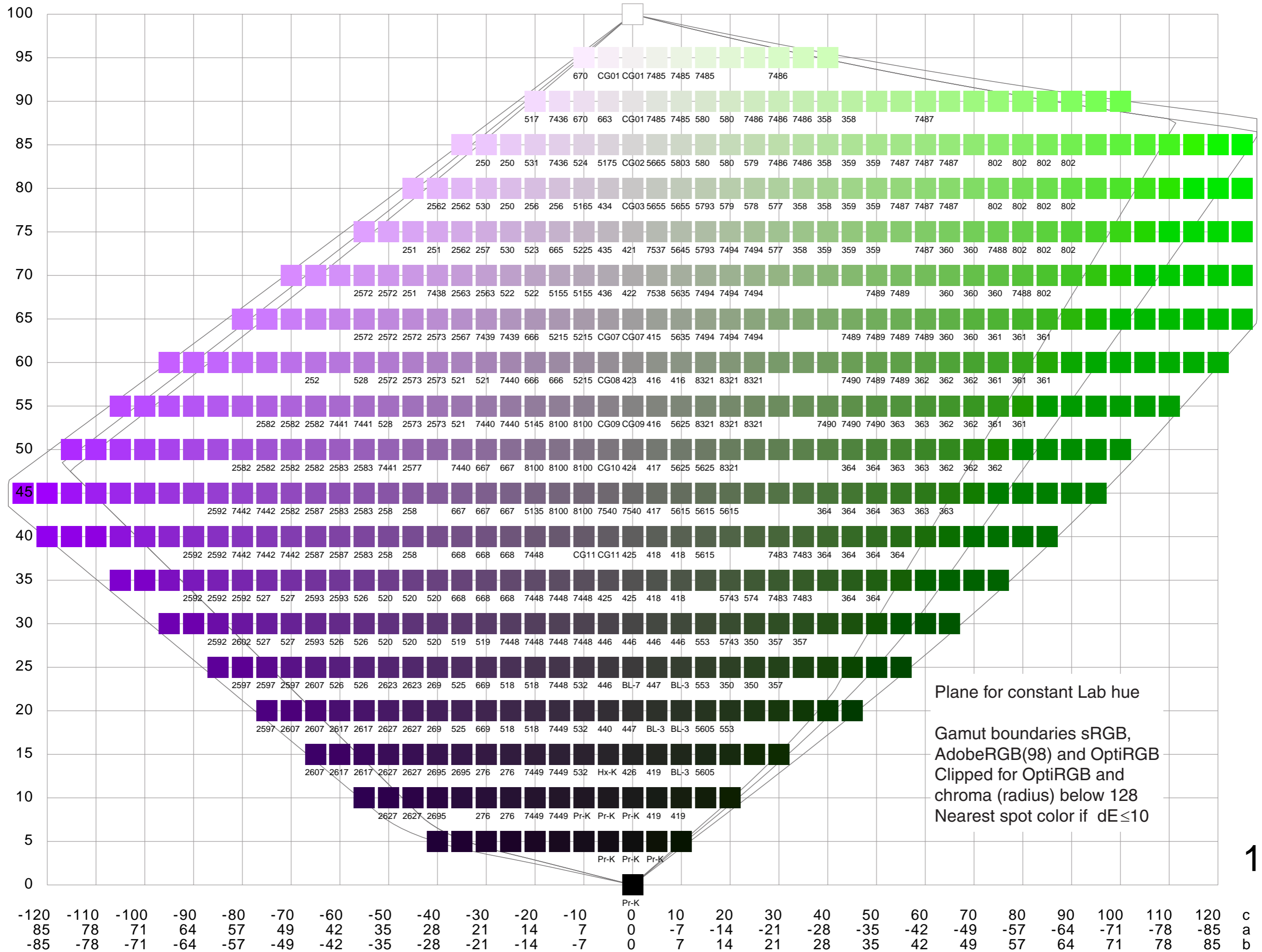




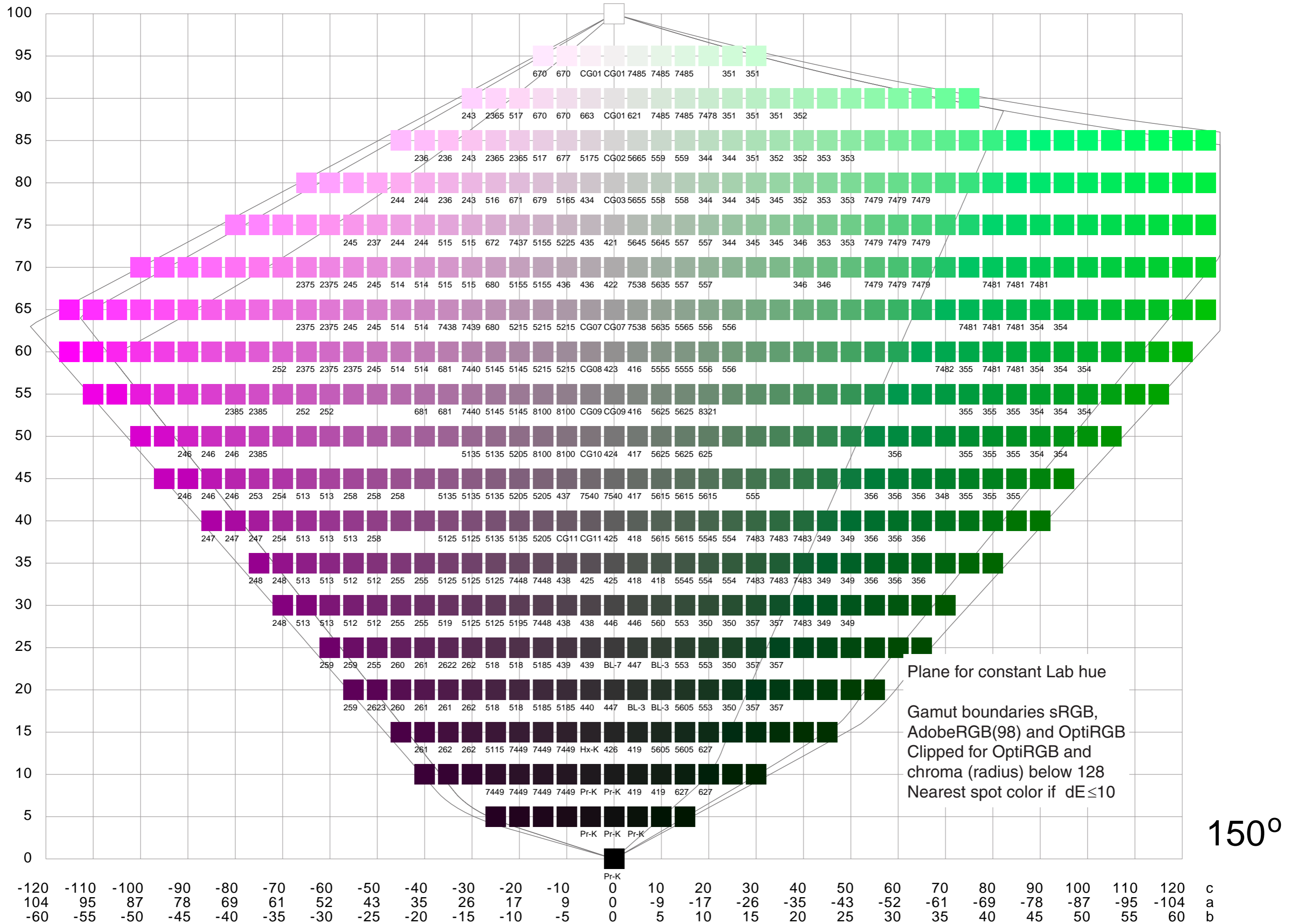


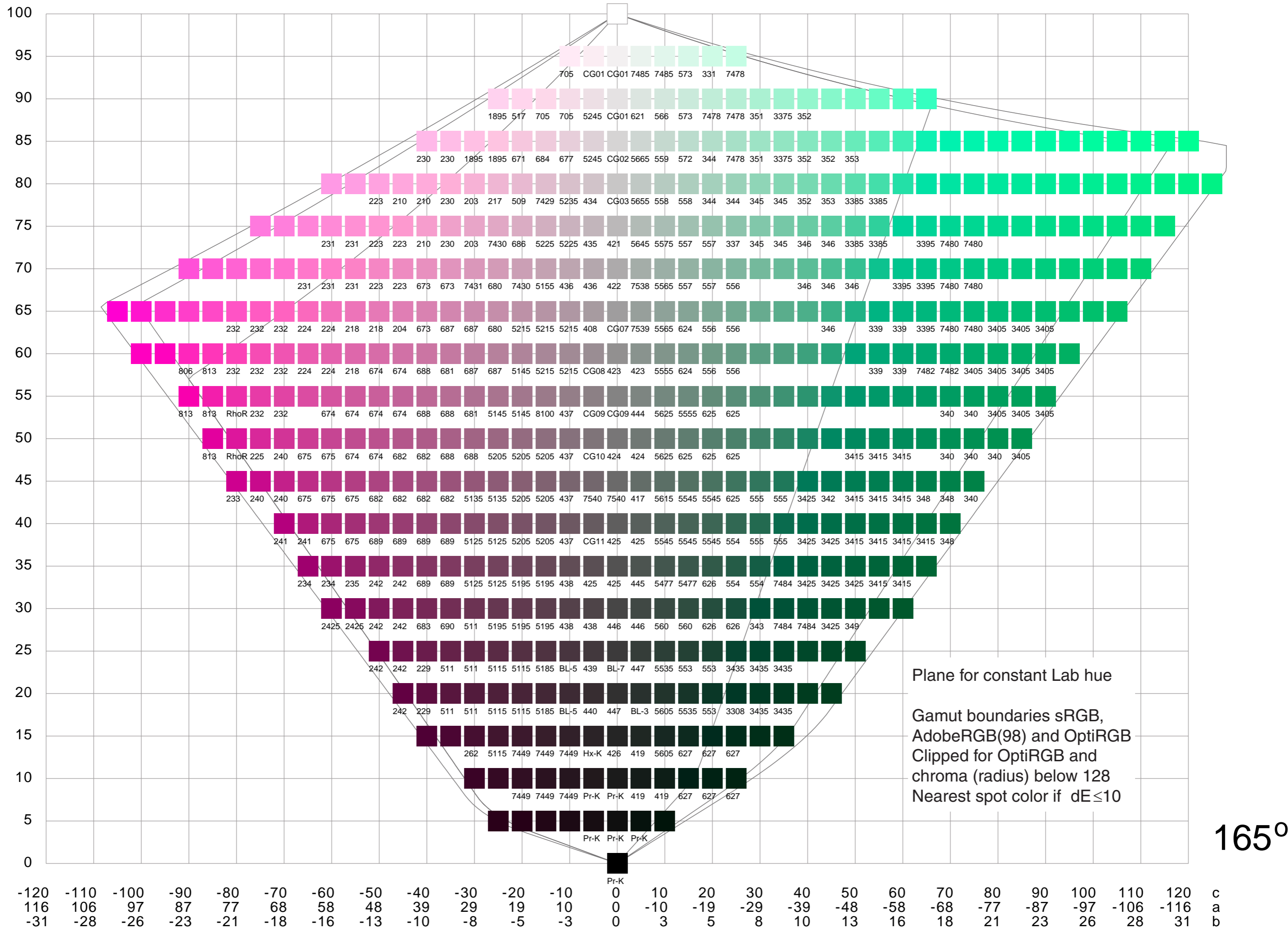
105°

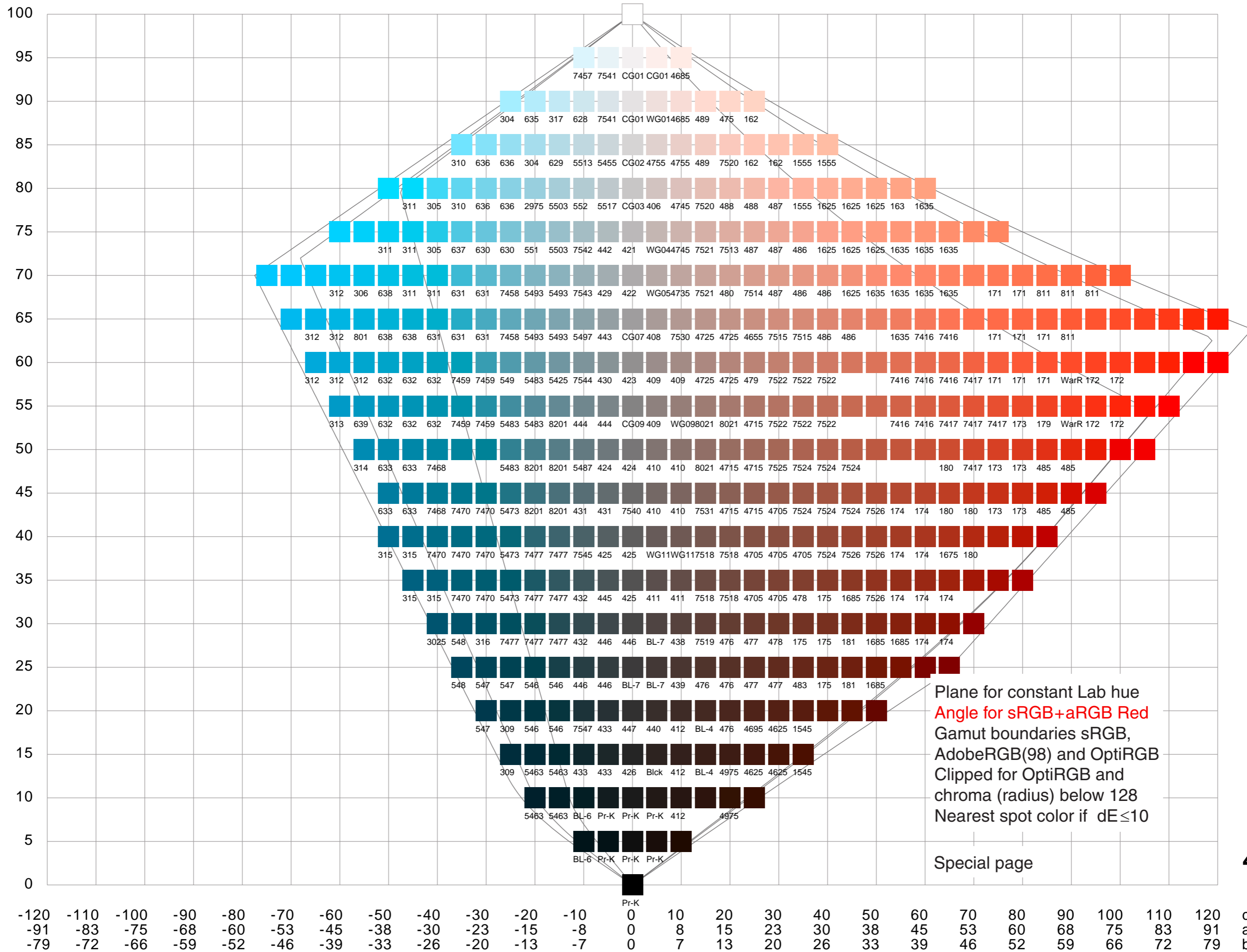




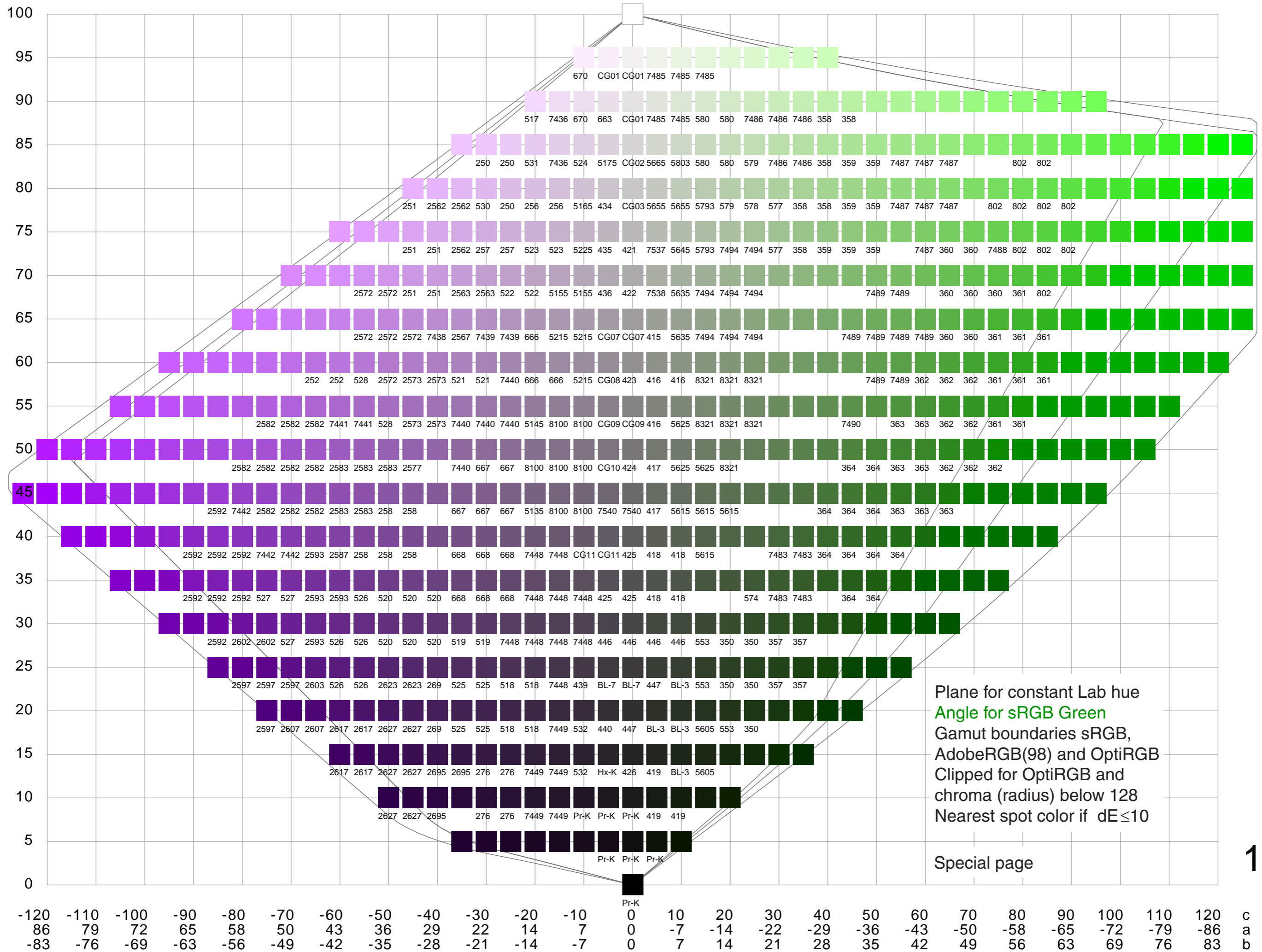
135°

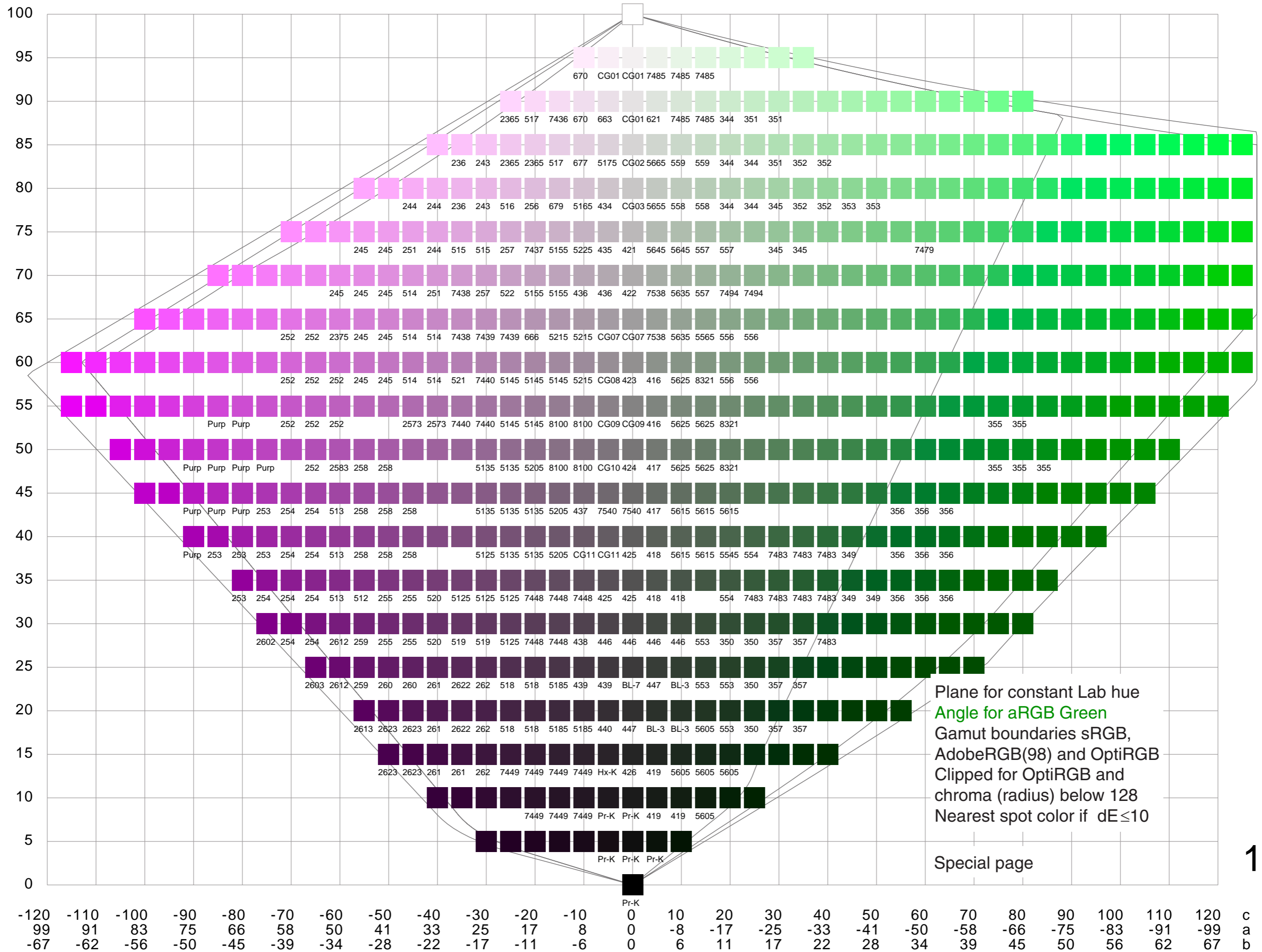






41°





146°

