

Paper: The Perceptual Amplification of Color

for a Common Computer Monitor:

Helmholtz-Kohlrausch at Work on the Desktop Computer

J. Michael Sanchez (Xerox Corp.) and Mark D. Fairchild (RIT Munsell Lab)

From left to right below:

Red = 255,0,0 (Target Color for E.L. Gray Construction)

CIELAB RGB Simulation Result for E.L. Gray Match (184,27,26)

Equal Luminance Gray for Red = 255,0,0 (147,147,147)

Mean of Observer Matches to Red=255 E.L. Gray (162,0,0)

\*\*Viewer results may vary depending on similarity of viewing conditions, monitor primaries, monitor gamma and with surround conditions: see paper for details. Viewers should be in a completely dark room for 5 minutes for most accurate surround conditions.



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From left to right below:

Green = 0,255,0 (Target Color for E.L. Gray Construction)

CIELAB RGB Simulation Result for E.L. Gray Match (43,215,35)

Equal Luminance Gray for Green = 0,255,0 (222,222,222)

Mean of Observer Matches to Green = 255 E.L. Gray (0,199,0)

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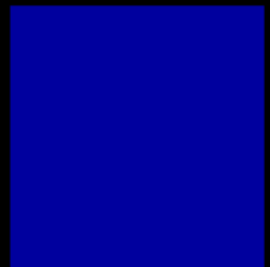
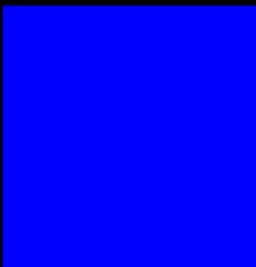
Blue = 0,0,255 (Target Color for E.L. Gray Construction)

CIELAB RGB Simulation Result for E.L. Gray Match (50,36,160)

Equal Luminance Gray for Blue =0,0,255 (93,93,93)

Mean of Observer Matches to Blue=255 E.L. Gray (0,0,158)

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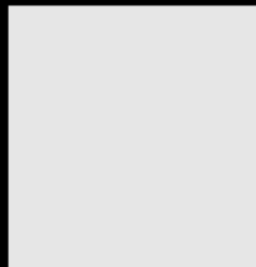
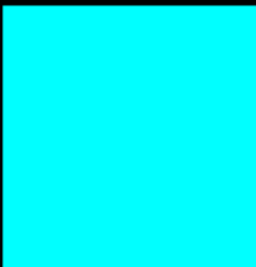
Cyan = 0,255,255 (Target Color for E.L. Gray Construction)

CIELAB RGB Simulation Result for E.L. Gray Match (47,206,203)

Equal Luminance Gray for Cyan =0,255,255 (230,230,230)

Mean of Observer Matches to Cyan=255 E.L. Gray (0,208,208)

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From left to right below:

Magenta = 255,0,255 (Target Color for E.L. Gray Construction)

CIELAB RGB Simulation Result for E.L. Gray Match (191,50,191)

Equal Luminance Gray for Magenta = 0,255,255 (163,163,163)

Mean of Observer Matches to Magenta=255 E.L. Gray (174,0,174)

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From left to right below:

Yellow = 255,255,0 (Target Color for E.L. Gray Construction)

CIELAB RGB Simulation Result for E.L. Gray Match (234,235,30)

Equal Luminance Gray for Yellow =255,255,0 (248,248,248)

Mean of Observer Matches to Magenta=255 E.L. Gray (233,233,0)

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