Custom Linearized QTR Profile Vs. Profile with Stock Linearization

On the following page is a graph showing the degree of improvement with linearizing the Stock profile.

Profile: Epson Enhanced Matte with Ultrachrome Inks (Matte Black) – Sepia version

Printer: Epson 2200

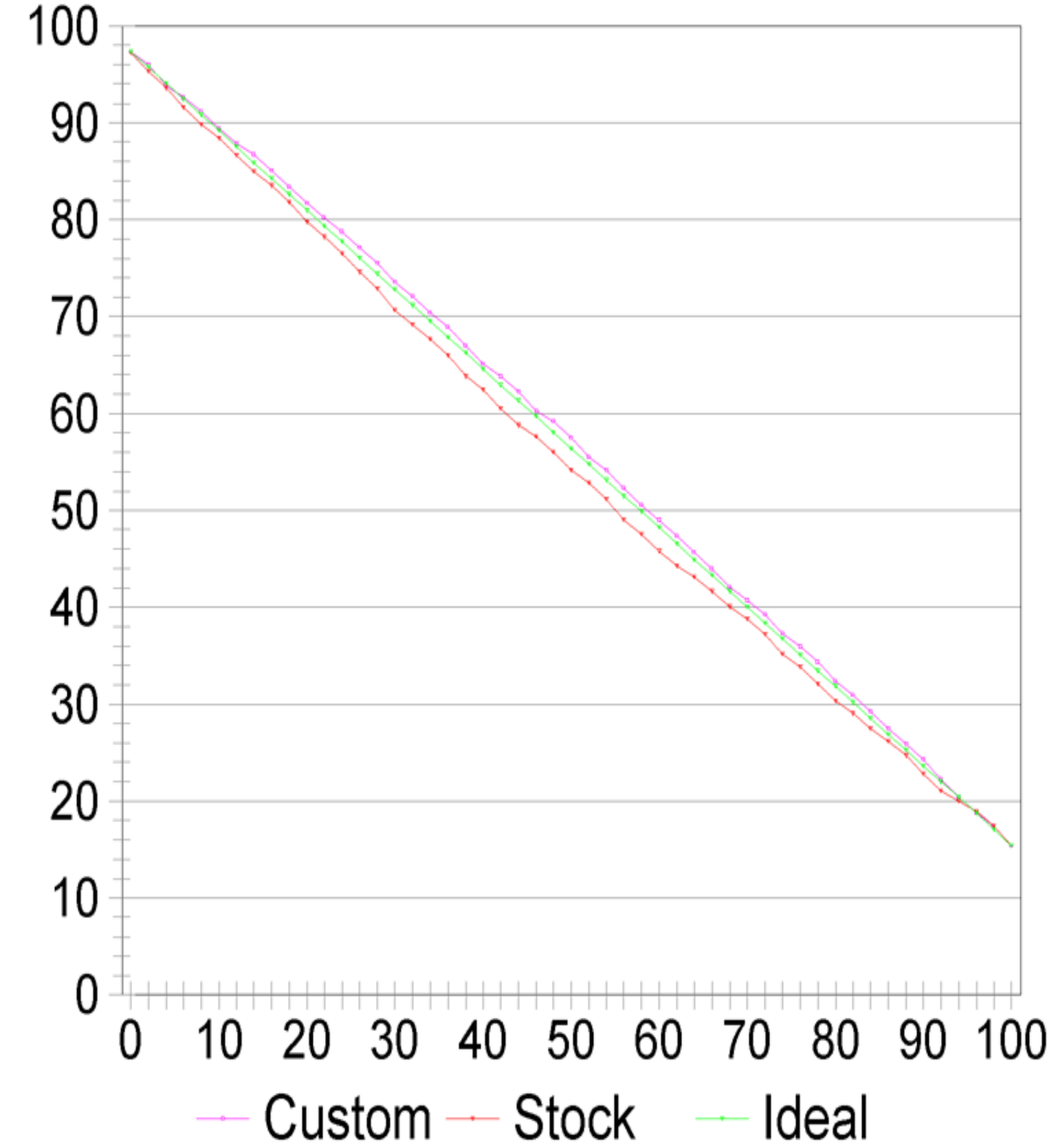
Graph Legend

Ideal (completely linear) between measured black and white – Green
Stock Profile on my Epson 2200 – Red
Custom profile after linearizing the Sepia profile for Enhanced Matte – Magenta

Statistics on Measurements

Delta L (Change from Ideal)	**Mean**	**SD**
Stock Linearized		
Total	1.37	.70
Worst 40%	2.11	.27
Custom Linearized		
Total	.65	.31
Worst 40%	.93	.12

After the graph, the output from QTR-Linearize-Data is shown for both the stock and custom linearized profile, in case you wish to look at the data yourself.


100
90
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90
100
Custom
Stock
Ideal

Output from QTR-Linearize-Data

Espon_Enhanced_Matte_Sepia_Stock_Profile

Step	Dens	Lab	A	B	
0.00	0.031	97.25	0.86	-4.89	- b | a L +
2.00	0.054	95.29	1.13	-4.13	- b | a L +
4.00	0.074	93.57	1.45	-3.20	- b | a L +
6.00	0.098	91.61	1.67	-2.35	- b | a L +
8.00	0.120	89.82	1.93	-1.75	- b | a L +
10.00	0.138	88.38	2.17	-0.79	- b | a L +
12.00	0.159	86.64	2.38	-0.27	- b | a L +
14.00	0.181	84.94	2.54	0.42	- |b a L +
16.00	0.200	83.48	2.78	1.07	- | b a L +
18.00	0.223	81.78	2.97	1.71	- | b a L +
20.00	0.250	79.77	3.08	2.48	- | b a L +
22.00	0.271	78.21	3.28	2.96	- | b a L +
24.00	0.295	76.50	3.48	3.56	- | abL +
26.00	0.322	74.58	3.59	4.26	- | a b +
28.00	0.347	72.86	3.64	4.86	- | La b +
30.00	0.380	70.64	3.75	5.24	- | L a b +
32.00	0.403	69.17	3.84	5.61	- | L a b +
34.00	0.426	67.67	3.94	5.94	- | L a b +
36.00	0.452	65.99	3.96	6.40	- | L a b +
38.00	0.487	63.80	3.99	6.74	- | L a b +
40.00	0.510	62.41	4.01	7.10	- | L a b +
42.00	0.543	60.49	4.03	7.42	- | L a b+
44.00	0.571	58.81	3.94	7.71	- | L a b
46.00	0.593	57.58	3.96	7.85	- | L a b
48.00	0.622	55.96	3.92	8.08	- | L a b
50.00	0.656	54.13	3.80	8.22	- | L a b
52.00	0.681	52.80	3.84	8.24	- |L a b
54.00	0.712	51.15	3.71	8.53	- L a b
56.00	0.753	49.06	3.56	8.53	- L| a b
58.00	0.785	47.50	3.50	8.66	- L | a b
60.00	0.820	45.82	3.34	8.71	- L | a b
62.00	0.853	44.26	3.19	8.54	- L | a b
64.00	0.879	43.10	3.18	8.44	- L | a b
66.00	0.911	41.67	3.00	8.51	- L | a b
68.00	0.947	40.06	2.79	8.09	- L | a b
70.00	0.978	38.77	2.72	7.83	- L | a b
72.00	1.016	37.17	2.58	7.32	- L | a b+
74.00	1.067	35.16	2.36	6.79	- L | a b +
76.00	1.101	33.84	2.31	6.30	- L | a b +
78.00	1.146	32.13	2.14	5.94	- L | a b +
80.00	1.196	30.31	1.93	5.21	- L | a b +
82.00	1.232	29.05	1.90	4.80	- L | a b +

84.00	1.278	27.49	1.80	4.46	-	L	| a b +
86.00	1.317	26.20	1.70	3.98	-	L	| a b +
88.00	1.364	24.72	1.69	3.60	-	L	| a b +
90.00	1.426	22.83	1.55	3.20	-	L	| a b +
92.00	1.489	20.99	1.41	2.67	-	L	| a b +
94.00	1.524	20.02	1.30	2.40	-	L	| a b +
96.00	1.565	18.91	1.16	2.08	-	L	| a b +
98.00	1.620	17.45	1.08	1.91	-	L	| a b +
100.00	1.701	15.44	0.96	1.94	-	L	| a b +

LINEARIZE="97.25 95.29 93.57 91.61 89.82 88.38 86.64 84.94 83.48 81.78 79.77 78.21 76.50 74.58 72.86 70.64 69.17 67.67 65.99 63.80 62.41 60.49 58.81 57.58 55.96 54.13 52.80 51.15 49.06 47.50 45.82 44.26 43.10 41.67 40.06 38.77 37.17 35.16 33.84 32.13 30.31 29.05 27.49 26.20 24.72 22.83 20.99 20.02 18.91 17.45 15.44"

Epson_Enhanced_Matte_Sepia_Custom_Linearized_Profile

Step	Dens	Lab	A	B			
0.00	0.030	97.35	0.82	-5.02	-	b	| a L +
2.00	0.046	95.99	1.05	-4.37	-	b	| a L +
4.00	0.072	93.80	1.30	-3.47	-	b	| a L +
6.00	0.086	92.58	1.54	-2.68	-	b	| a L +
8.00	0.103	91.16	1.72	-2.13	-	b	| a L +
10.00	0.125	89.35	1.95	-1.40	-	b	| a L +
12.00	0.143	87.92	2.13	-0.75	-	b	| a L +
14.00	0.159	86.69	2.32	-0.11	-	b	| a L +
16.00	0.180	85.01	2.56	0.47	-	| b a L +	
18.00	0.201	83.38	2.70	1.03	-	| b a L +	
20.00	0.224	81.69	2.89	1.77	-	| b a L +	
22.00	0.244	80.21	3.06	2.30	-	| b a L +	
24.00	0.264	78.72	3.19	2.81	-	| ba L +	
26.00	0.286	77.11	3.26	3.57	-	| ab L +	
28.00	0.309	75.54	3.44	3.83	-	| a b +	
30.00	0.337	73.54	3.59	4.30	-	| a b +	
32.00	0.358	72.11	3.67	4.85	-	| La b +	
34.00	0.384	70.41	3.76	5.19	-	| L a b +	
36.00	0.407	68.90	3.87	5.66	-	| L a b +	
38.00	0.437	66.96	3.85	6.29	-	| L a b +	
40.00	0.466	65.09	3.93	6.57	-	| L a b +	
42.00	0.487	63.80	4.01	6.83	-	| L a b +	
44.00	0.512	62.29	3.94	7.29	-	| L a b+	
46.00	0.546	60.28	3.94	7.52	-	| L a b	
48.00	0.565	59.18	3.96	7.76	-	| L a b	
50.00	0.594	57.52	3.84	8.08	-	| L a b	
52.00	0.631	55.47	3.88	8.08	-	| L a b	
54.00	0.655	54.14	3.85	8.27	-	| L a b	
56.00	0.690	52.28	3.66	8.58	-	| L a b	
58.00	0.725	50.48	3.65	8.41	-	L a b	

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60.00  0.755  48.97  3.63   8.67   -                    L|          a           b
62.00  0.789  47.33  3.41   8.83   -                   L |          a           b
64.00  0.824  45.65  3.31   8.75   -                  L  |          a           b
66.00  0.860  43.95  3.19   8.69   -                 L   |          a           b
68.00  0.902  42.07  2.95   8.58   -                L    |          a           b
70.00  0.933  40.67  2.95   8.44   -               L     |          a           b
72.00  0.967  39.24  2.75   8.09   -              L      |          a           b
74.00  1.015  37.23  2.48   7.61   -             L       |        a             b
76.00  1.047  35.94  2.50   7.04   -            L        |        a             b +
78.00  1.089  34.30  2.23   6.65   -           L         |      a               b  +
80.00  1.140  32.34  2.04   5.93   -          L          |      a             b    +
82.00  1.178  30.96  2.03   5.36   -         L           |      a           b      +
84.00  1.227  29.24  1.88   4.88   -        L            |      a         b        +
86.00  1.277  27.54  1.72   4.37   -       L             |    a         b          +
88.00  1.325  25.94  1.70   3.93   -      L              |    a       b            +
90.00  1.377  24.32  1.57   3.53   -     L               |    a     b              +
92.00  1.447  22.22  1.49   3.04   -    L                |   a     b               +
94.00  1.512  20.36  1.34   2.49   -   L                 |   a   b                 +
96.00  1.571  18.74  1.16   2.13   -  L                  |  a   b                  +
98.00  1.623  17.38  1.06   1.89   - L                   |  a b                    +
100.00 1.701  15.44  0.98   1.93   -L                    | a  b                    +
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LINEARIZE="97.35 95.99 93.80 92.58 91.16 89.35 87.92 86.69 85.01 83.38 81.69 80.21 78.72 77.11 75.54 73.54 72.11 70.41 68.90 66.96 65.09 63.80 62.29 60.28 59.18 57.52 55.47 54.14 52.28 50.48 48.97 47.33 45.65 43.95 42.07 40.67 39.24 37.23 35.94 34.30 32.34 30.96 29.24 27.54 25.94 24.32 22.22 20.36 18.74 17.38 15.44"