



Overview

Product name	TE230 A
Principle	color rendition test chart well-known as "ColorChecker Digital SG", mounted on a carrier

Features

Color patches

Type/s of pattern	<p>140 patches arranged in 10 rows with 14 patches each</p> <ul style="list-style-type: none"> Chosen specifically for their location in color space expand the color gamut and allow you create profiles that capture the full capabilities of your digital camera and scanner. Includes all 24 patches of the standard ColorChecker chart colors. Many of these squares represent natural objects of special interest, such as human skin, foliage and blue sky. These squares are not only the same color as their counterparts, but also reflect light the same way in all parts of the visible spectrum. 14 individual skin-tone reference colors deliver greater accuracy consistency over a wide variety of skin tones. 17 gray scale steps provide accurate control of camera balance and maintain a neutral aspect regardless of light source.
Color values	Default color values provided by x-rite are given at the end of this data sheet. Individual measurement available on request.
Individual color values	<input type="checkbox"/> No - unmeasured <input type="checkbox"/> Yes - measured
Size of a single patch	13.5 x 13.5 [mm]



General description hardware

Type	reflective (A chart)			
Aspect ratio	4:3			
Chart size [W x H x D]*		W [mm]	H [mm]	D [mm]
	<input type="checkbox"/> A1066	1245	835	5.2***
	<input type="checkbox"/> A360	500	400	5.2***
	<input type="checkbox"/> A280	365	305	5.2***
	<input type="checkbox"/> other			
Picture size [W x H]**		4:3		
		W [mm]	H [mm]	
	<input type="checkbox"/> A1066	216	279	
	<input type="checkbox"/> A360	216	279	
	<input type="checkbox"/> A280	216	279	
Material	Original Color Checker SG Digital mounted on plate Semi gloss surface (SG)			
Mounting	<input type="checkbox"/> aluminum composite panel (aluminum Dibond) <input type="checkbox"/> aluminum			
Edge protection	None for A1066, fabric tape for A360, A280			
Service life	Reflective Munsell Paper (ColorChecker) 2 years For color targets please check annually if a new reference measurement is necessary. Color patches are not fade less, especially when exposed to sunlight (ultra violet light). We therefore recommend to store the chart in the folder or case when not in use. We also recommend and offer a recalibration of the chart after 3 years of regular use.			
Scope of delivery	test chart			

Miscellaneous

Evaluation / Assessment	supported by iQ-Analyzer Color Module
Illumination	It is recommended to test this chart under a continuous spectrum. Typical white LED spectra are not suited for color tests in general.
Accessoires	chart case
Terms & Conditions	image-engineering.de/terms-and-conditions

* If only the target without mounting is needed, please ask for ColorChecker Digital SG, not for TE230.

** The standard ColorChecker Digital SG will be applied to the carrier.

*** 3mm Alu (dibond) thicknes + 0.2mm attachment foil + 1.85mm ColorChecker Digital SG + tolerances



Default color values X-Rite valid after November 2014, white point D50

Colorimetric data ColorChecker Digital SG

Original reference data from X-Rite, latest values valid after 2014

Note: These references files provide a generic, averaged colorimetric description of the ColorChecker charts. For highest accuracy it is a good idea to create custom reference files for a chart.

Number=Row

Letter=Column

	L	a	b
A1	96,71	-0,62	2,06
A2	8,05	0,17	-0,69
A3	49,76	0,11	0,72
A4	96,72	-0,63	2,06
A5	8,17	0,15	-0,65
A6	49,68	0,14	0,74
A7	96,60	-0,62	2,11
A8	7,99	0,21	-0,75
A9	49,67	0,15	0,73
A10	96,51	-0,63	2,11

	L	a	b
B1	49,70	0,12	0,68
B2	33,02	52,00	-10,30
B3	61,40	27,14	-18,42
B4	30,54	50,39	-41,79
B5	49,56	-13,90	-49,65
B6	60,62	-29,91	-27,54
B7	20,13	-24,81	-7,50
B8	60,32	-40,29	-13,25
B9	19,62	1,77	11,99
B10	49,68	0,15	0,78

	L	a	b
C1	8,13	0,15	-0,76
C2	19,65	20,42	-18,82
C3	41,70	18,90	-37,42
C4	20,25	0,26	-36,44
C5	60,13	-17,88	-32,08
C6	19,75	-17,79	-22,37
C7	60,43	-5,12	-32,79
C8	50,46	-47,90	-11,56
C9	60,53	-40,75	19,37
C10	8,09	0,19	-0,69

	L	a	b
D1	96,79	-0,66	1,99
D2	84,00	-1,70	-8,37
D3	85,48	15,15	0,79
D4	84,56	-19,74	-1,13
D5	85,26	13,37	7,95
D6	84,38	-11,97	27,16
D7	62,35	29,94	36,89
D8	64,17	21,34	19,36
D9	50,48	-53,21	12,65
D10	96,57	-0,64	2,00

	L	a	b
E1	49,79	0,13	0,66
E2	32,77	19,91	22,33
E3	62,28	37,56	68,87
E4	19,92	25,07	-61,05
E5	96,78	-0,66	2,01
E6	8,07	0,12	-0,93
E7	77,37	20,28	24,27
E8	74,01	29,00	25,80
E9	20,33	-23,98	7,20
E10	49,72	0,14	0,71

	L	a	b
F1	8,09	0,19	-0,69
F2	63,88	20,34	19,93
F3	35,28	12,93	-51,17
F4	52,75	-44,12	38,68
F5	79,65	-0,08	0,62
F6	30,32	-0,10	0,22
F7	63,46	13,53	26,37
F8	64,44	14,31	17,63
F9	60,05	-44,00	7,27
F10	8,08	0,18	-0,78

	L	a	b
G1	96,70	-0,66	1,97
G2	45,84	-3,74	-25,32
G3	47,60	53,66	22,15
G4	36,88	65,72	41,63
G5	65,22	-0,27	0,16
G6	39,55	-0,37	-0,09
G7	44,49	16,06	26,79
G8	64,97	15,89	16,79
G9	60,77	-30,19	40,76
G10	96,71	-0,64	2,01

	L	a	b
H1	49,74	0,14	0,68
H2	38,29	-17,44	30,22
H3	20,76	31,66	-28,04
H4	81,43	2,41	88,98
H5	49,71	0,12	0,69
H6	60,04	0,09	0,05
H7	67,60	14,47	17,12
H8	64,75	17,30	18,88
H9	51,26	-50,65	43,80
H10	49,76	0,14	0,71

	L	a	b
I1	8,10	0,19	-0,93
I2	51,36	9,52	-26,98
I3	71,62	-24,77	64,10
I4	48,75	57,24	-14,45
I5	34,85	-0,21	0,73
I6	75,36	0,35	0,26
I7	45,14	26,38	41,24
I8	36,20	16,70	27,06
I9	61,65	-54,33	46,18
I10	7,97	0,14	-0,80

	L	a	b
J1	96,69	-0,67	1,95
J2	68,71	-35,41	-1,11
J3	70,39	19,37	79,73
J4	47,42	-30,91	-32,27
J5	15,43	-0,24	-0,25
J6	88,85	-0,59	0,25
J7	64,00	25,09	27,14
J8	66,65	22,21	28,81
J9	62,05	16,45	51,74
J10	96,71	-0,64	2,02

	L	a	b
K1	49,72	0,12	0,64
K2	85,68	10,75	18,39
K3	89,35	-16,38	6,41
K4	84,59	5,21	-5,87
K5	83,63	-12,47	-8,89
K6	70,60	-0,24	0,07
K7	45,14	-0,04	0,86
K8	20,33	0,40	-0,21
K9	62,33	-14,54	54,58
K10	49,74	0,14	0,69

	L	a	b
L1	8,08	0,13	-0,81
L2	23,03	33,95	8,88
L3	44,35	67,94	50,62
L4	60,91	36,55	4,15
L5	62,20	37,45	18,18
L6	63,33	51,30	81,88
L7	73,74	-11,45	85,07
L8	62,35	1,96	57,52
L9	72,77	-29,09	71,26
L10	8,13	0,15	-0,86

	L	a	b
M1	49,71	0,12	0,62
M2	42,52	63,55	11,43
M3	18,09	32,61	-5,90
M4	40,66	65,54	31,98
M5	53,13	68,44	49,57
M6	82,08	23,39	87,24
M7	82,50	5,29	96,68
M8	71,90	-17,32	77,72
M9	21,95	13,41	16,36
M10	49,74	0,12	0,69

	L	a	b
N1	96,79	-0,67	1,97
N2	49,78	0,12	0,65
N3	8,23	0,18	-0,82
N4	96,73	-0,67	1,99
N5	49,80	0,11	0,67
N6	8,18	0,15	-0,84
N7	96,73	-0,65	2,01
N8	49,75	0,13	0,67
N9	8,11	0,15	-0,90
N10	96,55	-0,64	2,02

https://www.xrite.com/de/service-support/new_color_specifications_for_colorchecker_sg_and_classic_charts



Example measurement by Image Engineering

TE230-A280



www.image-engineering.de

Acceptance protocol

SN: _____
 Order Confirmation: _____
 Date: 04.07.2023
 Operator: _____



measured with eXact, white point D50

	X	Y	Z	L	a	b
1A	86.3193	89.8889	71.8903	95.9518	-0.6597	2.0086
1B	17.7622	18.4444	14.9175	50.0314	-0.1210	0.7632
1C	0.6511	0.6666	0.5540	6.0219	0.3358	-0.0719
1D	86.0249	89.5872	71.6244	95.8264	-0.6679	2.0283
1E	17.9712	18.6628	14.9997	50.2911	-0.1285	1.0035
1F	0.6717	0.6885	0.5676	6.2193	0.3182	0.0101
1G	85.8413	89.4161	71.5205	95.7551	-0.7033	1.9976
1H	17.8068	18.4941	14.9633	50.0906	-0.1381	0.7494
1I	0.6699	0.6874	0.5760	6.2095	0.2858	-0.1644
1J	85.3671	88.9279	71.1416	95.5514	-0.7125	1.9837
1K	17.7976	18.4867	14.9208	50.0818	-0.1487	0.8416
1L	0.6626	0.6788	0.5650	6.1317	0.3267	-0.0908
1M	17.8993	18.5909	14.9953	50.2058	-0.1422	0.8675
1N	86.3330	89.9044	71.8838	95.9582	-0.6621	2.0255
2A	0.6760	0.6944	0.5893	6.2729	0.2590	-0.3053
2B	13.8570	7.5475	8.5882	33.0226	50.5961	-9.5525
2C	4.4574	3.2669	5.9071	21.0829	19.6081	-19.1053
2D	60.6092	63.7131	60.4043	83.8171	-1.9354	-8.1448
2E	8.7272	7.0172	2.2953	31.8464	18.2588	21.8973
2F	35.9254	31.5024	16.0375	62.9303	19.5712	20.2405
2G	13.8379	15.1916	23.1479	45.8961	-5.0136	-24.2030
2H	7.8158	10.1237	2.6421	38.0641	-16.6447	29.7072
2I	20.4783	19.3358	29.7214	51.0784	9.1857	-26.6437
2J	27.6092	38.3421	32.2510	68.2728	-33.6876	-0.9257
2K	67.1139	64.8019	38.3091	84.3826	10.4320	18.2141
2L	6.2673	3.8814	2.1177	23.2757	31.7443	8.7252
2M	23.1684	12.3392	7.0610	41.7508	61.9200	11.4400
2N	17.9168	18.6082	14.9873	50.2263	-0.1379	0.9229
3A	17.7607	18.4507	14.9210	50.0390	-0.1611	0.7674
3B	34.4383	28.5116	34.3087	60.3489	25.6633	-17.6336
3C	14.1945	11.8696	24.8677	41.0087	18.2823	-35.7946
3D	69.0066	64.5958	52.3863	84.2760	15.0181	1.0029
3E	40.2110	30.7486	4.0007	62.2956	36.0795	62.0664
3F	9.6928	8.6115	27.1906	35.2257	11.6846	-49.8166
3G	26.6169	16.3180	6.7421	47.3896	52.3295	22.5094
3H	5.3179	3.2014	7.9905	20.8335	31.5583	-28.3333
3I	32.4371	41.7150	6.6639	70.6749	-25.8543	62.9931
3J	45.6257	40.6057	3.2885	69.8996	19.3703	79.7899
3K	62.6233	72.6858	53.9180	88.2987	-16.5597	6.2793
3L	26.7265	14.0290	1.6761	44.2750	66.2009	49.3549
3M	4.6343	2.7690	3.0729	19.0942	30.5234	-6.2789
3N	0.6758	0.6925	0.5808	6.2553	0.3276	-0.1763



TE230-A280



	X	Y	Z	L	a	b
4A	86,0687	89,6261	71,6573	95,8426	-0,6559	2,0269
4B	10,7793	5,7645	16,9285	28,8109	47,7164	-40,6930
4C	3,0144	3,1779	9,8003	20,7430	-0,8627	-34,9568
4D	53,2156	63,2983	52,7807	83,6001	-19,1767	-0,5928
4E	4,1156	2,8399	17,1132	19,3912	22,1907	-57,3612
4F	11,9449	20,0115	5,1846	51,8509	-43,2080	37,4769
4G	22,1036	11,3453	3,0570	40,1566	63,9546	30,1511
4H	56,8754	58,1707	5,3636	80,8346	1,9379	86,5438
4I	27,8503	16,9707	19,7227	48,2237	53,6873	-13,3849
4J	10,3507	15,6146	27,1976	46,4654	-31,6168	-30,4497
4K	63,4835	63,3720	57,5902	83,6387	5,4997	-5,6087
4L	37,0813	28,0417	20,6839	59,9272	36,3338	4,8092
4M	22,5730	11,5416	3,0779	40,4787	64,7171	30,5546
4N	86,3640	89,9241	71,8709	95,9664	-0,6397	2,0510
5A	0,6748	0,6936	0,5904	6,2656	0,2405	-0,3389
5B	14,2450	17,3345	40,6721	48,6794	-14,4683	-46,4638
5C	22,3608	27,3061	43,1177	59,2573	-17,1938	-31,3310
5D	67,5626	63,9336	45,6268	83,9322	13,3586	8,1461
5E	85,6829	89,2325	71,2973	95,6786	-0,6696	2,0643
5F	51,8415	53,8267	43,9814	78,3615	-0,1575	0,5388
5G	32,1901	33,4911	27,6311	64,5574	-0,3710	0,0133
5H	17,7564	18,4407	14,9060	50,0270	-0,1327	0,7846
5I	8,1228	8,4541	6,9389	34,9117	-0,2599	0,1594
5J	2,3854	2,5212	2,1297	18,0145	-0,9221	-0,4573
5K	54,1339	61,3985	58,5461	82,5935	-12,4922	-8,3870
5L	38,5627	29,4136	15,9282	61,1457	35,8605	17,4274
5M	37,5611	21,1337	3,4843	53,0962	67,3391	49,4886
5N	17,9043	18,5937	14,9720	50,2091	-0,1301	0,9318
6A	17,6126	18,2911	14,8034	49,8479	-0,1305	0,7356
6B	20,1453	27,9320	40,2156	59,8280	-30,1543	-26,6488
6C	2,2961	3,3472	5,8101	21,3843	-17,2882	-18,1286
6D	55,3535	62,3935	30,7189	83,1232	-11,7011	27,0317
6E	0,6755	0,6937	0,5825	6,2663	0,2664	-0,1900
6F	5,8363	6,0980	5,1181	29,6588	-0,4882	-0,4438
6G	10,4280	10,8732	8,9709	39,3666	-0,4283	0,0084
6H	26,7940	27,8392	22,9769	59,7439	-0,2011	-0,0041
6I	45,7201	47,4154	38,8282	74,4556	0,0010	0,4024
6J	66,0144	70,8882	57,8013	87,4317	-0,7378	0,7143
6K	38,9050	40,3819	33,1624	69,7415	-0,1038	0,2420
6L	45,9749	31,2385	1,9094	62,7093	51,3547	78,7151
6M	67,4997	59,7353	6,2873	81,6951	22,8634	83,6538
6N	0,6546	0,6707	0,5592	6,0585	0,3193	-0,1068
7A	86,1392	89,6866	71,6522	95,8677	-0,6330	2,0748
7B	1,5098	2,7195	3,0308	18,8838	-25,2708	-6,3350
7C	25,3046	27,6112	44,0416	59,5366	-5,4691	-31,9919
7D	37,6796	30,4488	9,7541	62,0403	29,1706	36,4002
7E	55,2915	49,4591	25,0975	75,7370	19,9810	23,6701
7F	34,2379	31,8239	13,6112	63,1979	12,6938	26,8660
7G	16,1622	13,7541	4,2453	43,8787	17,5867	28,8566
7H	39,1769	36,4936	20,4400	66,8962	13,0193	17,3224
7I	18,7847	14,6873	3,0859	45,2035	26,0468	38,6429
7J	38,2099	31,9194	13,5561	63,2770	25,5469	27,1505
7K	13,8980	14,5051	11,8526	44,9493	-0,5542	0,3463
7L	39,0131	43,9347	3,3338	72,1857	-10,2970	83,4192
7M	59,5508	59,6172	3,9993	81,6306	4,9811	95,4114
7N	86,1928	89,7283	71,6519	95,8851	-0,6078	2,1049



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	X	Y	Z	L	a	b
8A	0,7112	0,7283	0,6094	6,5789	0,3616	-0,1569
8B	17,5231	27,2206	30,0479	59,1787	-40,8312	-13,1967
8C	10,2288	18,5238	19,8919	50,1261	-48,3319	-10,4588
8D	37,0374	31,9974	16,7056	63,3415	21,4734	19,3626
8E	52,9359	44,5109	21,2211	72,5696	27,6488	25,5240
8F	34,9340	32,1012	17,2740	63,4273	14,0887	18,1935
8G	36,0517	32,5232	18,4757	63,7737	16,3568	16,0985
8H	36,4665	32,8687	17,5262	64,0552	16,5197	18,7009
8I	11,1561	9,4848	2,8636	36,9020	15,6151	25,9760
8J	40,7215	35,2429	14,5454	65,9381	21,9533	29,1365
8K	2,8604	2,9720	2,3525	19,9319	-0,0971	0,8559
8L	29,7773	30,2403	4,8890	61,8618	2,3558	56,2777
8M	35,0830	41,8384	4,4250	70,7603	-17,0131	74,1690
8N	17,8868	18,5714	14,9476	50,1826	-0,1087	0,9477
9A	17,8713	18,5579	14,9578	50,1665	-0,1217	0,8943
9B	3,1232	3,1617	1,5441	20,6007	1,2788	10,1465
9C	18,9664	28,7579	14,7752	60,5682	-39,2485	19,2905
9D	9,5557	18,2830	10,3239	49,8382	-52,4012	13,4870
9E	2,1049	3,3475	2,0066	21,3854	-21,4040	6,5164
9F	17,4459	27,6156	19,2396	59,5407	-42,8076	7,1490
9G	20,7429	28,3831	7,8511	60,2340	-28,9989	40,1362
9H	10,5629	19,0429	3,8846	50,7380	-48,4198	42,8519
9I	16,6015	29,1536	6,7953	60,9177	-53,3819	45,6062
9J	32,6632	29,4607	5,8764	61,1868	15,8488	50,1834
9K	25,8119	30,5513	5,3002	62,1278	-14,5128	54,6089
9L	32,1857	42,7835	4,7259	71,4087	-29,9180	73,6146
9M	4,1767	3,4089	1,1621	21,6127	13,4760	16,5521
9N	0,6995	0,7168	0,5970	6,4753	0,3354	-0,1016
10A	86,0213	89,5405	71,4546	95,8069	-0,5907	2,1456
10B	17,8604	18,5429	14,9467	50,1487	-0,1031	0,8915
10C	0,6558	0,6715	0,5597	6,0655	0,3361	-0,1041
10D	86,2075	89,7331	71,6416	95,8871	-0,5891	2,1175
10E	17,8083	18,4876	14,8921	50,0830	-0,0971	0,9162
10F	0,6771	0,6932	0,5734	6,2622	0,3482	-0,0239
10G	85,7321	89,2300	71,2152	95,6776	-0,5731	2,1356
10H	17,7907	18,4717	14,8689	50,0640	-0,1089	0,9422
10I	0,6387	0,6536	0,5505	5,9038	0,3417	-0,2104
10J	85,9262	89,4500	71,4320	95,7693	-0,6058	2,1007
10K	17,8609	18,5452	14,9059	50,1515	-0,1122	0,9994
10L	0,6625	0,6783	0,5715	6,1268	0,3420	-0,2214
10M	17,7576	18,4371	14,8735	50,0227	-0,1077	0,8593
10N	85,7896	89,2898	71,2438	95,7025	-0,5732	2,1532