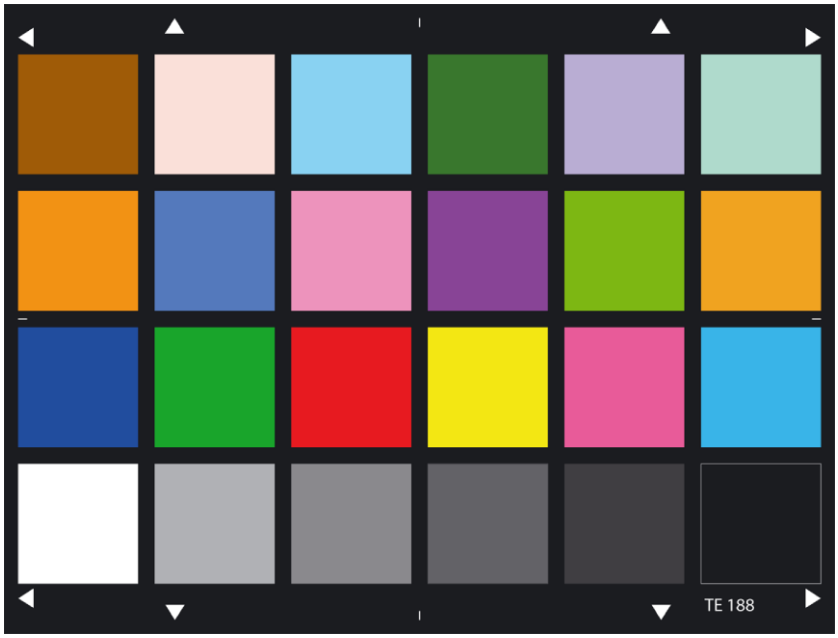
TE188 A/D data sheet



Overview

Product name	TE188 A / TE188 D
Principle	Color rendition test chart known as "ColorChecker", adapted to different sizes using original Munsell papers. Popular test charts for evaluating the color accuracy performance of a camera system.

Features

Color patches

Type/s of pattern	24 patches arranged in four rows with six patches each • 12 colors that are critical in reproduction, e.g., dark and light skin tones, blue sky, orange, violet, and others • 6 color patches with primary and secondary colors as blue, green, red, yellow, purple, and cyan • 6-step grayscale
Color values	Munsell paper (A), original color values ColorChecker Classic November 2014 edition and newer provided at the end of this data sheet, individual measurement available on request Color foils (D), individually measured values are provided in a separate Acceptance Protocol
Size of a single patch	

	4:3		16:9	
	W [mm]	H [mm]	W [mm]	H [mm]
A1066	100.0	100.0	133.0	100.0
A460	58.0	58.0	58.0	44.0
A444	-	-	56.0	43.5
A360	-	-	45.5	34.5
A280*	40.0	40.0	35.5	27.0
K360**	40.0	40.0	45.6	34.6
K280**	40.0	40.0	-	-
D280	41.5	41.5	41.5	27.5
D35	3.5	3.5	-	-

Surface finish	The color foils of transparent charts (and, in rare cases, Munsell charts) may show scratches or streaks. This issue does not affect the test chart's function as the scratches/streaks are not visible under normal illumination geometry. We also recommend recording the color chart slightly out of focus to obtain a stable average value in the result.

General description hardware

Type	Reflective (A) Transmissive (D)
Aspect ratio	4:3 or 16:9

Chart size [W x H x D]***

	W [mm]	H [mm]	D [mm]
A1066	1245	835	3.2
A460	600	500	3.2
A444	600	500	3.2
A360	500	400	3.2
A280*	365	305	3.2
K360**	390	271	2.1
K280**	334	271	2.1
D280	360	280	4.6
D35	50	50	2.6

Picture size [W x H]***

	4:3		16:9	
	W [mm]	H [mm]	W [mm]	H [mm]
A1066	800	600	1066	600
A460	460	340	460.0	259
A444	-	-	444.4	250
A360	-	-	360	202.5
A280*	202	292	280	157.5
K360**	275	180	360	202.5
K280**	275	180	-	-
D280	280	210	280	157.5
D35	28	21	-	-

Material	Specific matt paper (original Munsell sheets) and black cardboard as frame (A) Different transparent color foils (D)
Mounting	Aluminum composite panel (aluminum Dibond), size A1066 Aluminum, size A460, A444, A360, A280 Polystyrene, K360, K280** Embedded between plastic frames, D35
Edge protection	Fabric tape, might have influence to chart thickness tolerance (A460, A444, A360, A280) No Edge protection (A1066, K360, K280, D35)
Chart size tolerances	Up to +/- 2 mm as they are handmade in-house and fabric tape is used Up to +/- 0.5 mm as they are handmade in-house and no edge protection is used
Service life	Munsell Paper (ColorChecker) 2 years (A) Color foils 1 year (D) For color targets, please check annually if a new reference measurement is necessary. Some filter foils used for transparent charts are not fadeless, especially when exposed to sunlight (ultraviolet light). We, therefore, recommend storing the chart in the folder or case when not in use. We also recommend and offer a recalibration of the chart after three years of regular use.
Storage	Dark, dry, and free from harmful gas (e.g., formaldehyde or ozone) 20 °C and 25 °C with a humidity of 60% – 65% and no direct sunlight at any time
Scope of delivery	Test chart, a case for storing the chart safety (A), stable box (D)

Miscellaneous

Evaluation / Assessment	Supported by the iQ-Analyzer
Reference data iQ-Analyzer-X	Original color values ColorChecker Classic November 2014 edition and newer (A) Individual reference file provided (D)
Measurement device	X-Rite eXact (A) X-Rite 361T (D) https://www.image-engineering.de/content/products/charts/IE_reference_data_accuracy.pdf
Illumination	It is recommended to test this chart under a continuous spectrum. Typical white LED spectra are not suited for color tests in general.
Accessories	chart case
Terms & Conditions	image-engineering.de/terms-and-conditions

* Original ColorChecker Classic is mounted on plate. All other sizes are individually produced with original Munsell papers.

** only available in combination with a folder

*** If only the target without mounting is needed, please ask for the original ColorChecker Classic, not for TE188.

Original color values ColorChecker Classic November 2014 edition and newer (reflective)

Patch	Name	sRGB_D65			CIE Lab_D50			Munsell Notation			CIE XYZ_D50		
		R	G	B	L*	a*	b*	Hue	Value	Chroma	X	Y	Z
A1	Dark skin	116	79	65	37.54	14.37	14.92	3.0 YR	3.7	3.2	11.36	9.83	4.78
B1	Light skin	197	144	127	64.66	19.27	17.50	2.2 YR	6.47	4.1	38.11	33.62	18.53
C1	Blue sky	91	120	155	49.32	-3.82	-22.54	4.3 PB	4.95	5.5	16.53	17.86	25.47
D1	Foliage	91	108	64	43.46	-12.74	22.72	6.7 GY	4.2	4.1	11.14	13.47	5.24
E1	Blue flower	131	127	175	54.94	9.61	-24.79	9.7 PB	5.47	6.7	24.20	22.87	32.83
F1	Bluish green	95	189	172	70.48	-32.26	-0.37	2.5 BG	7.0	6.0	30.45	41.44	34.45
A2	Orange	224	124	48	62.73	35.83	56.50	5.0 YR	6.0	11.0	40.74	31.26	5.13
B2	Purplish blue	69	90	167	39.43	10.75	-45.17	7.5 PB	4.0	10.7	12.01	10.91	28.76
C2	Moderate red	197	80	95	50.57	48.64	16.67	2.5 R	5.0	10.0	29.15	18.90	9.74
D2	Purple	93	58	104	30.10	22.54	-20.87	5.0 P	3.0	7.0	8.35	6.28	10.42
E2	Yellow green	156	187	58	71.77	-24.13	58.19	5.0 GY	7.1	9.1	34.27	43.32	8.33
F2	Orange yellow	227	161	39	71.51	18.24	67.37	10.0 YR	7.0	10.5	47.70	42.93	6.01
A3	Blue	40	62	145	28.37	15.42	-49.80	7.5 PB	2.9	12.7	6.81	5.60	20.78
B3	Green	61	147	70	54.38	-39.72	32.27	0.25 G	5.4	8.65	14.14	22.33	7.29
C3	Red	178	54	57	42.43	51.05	28.62	5.0 R	4.0	12.0	21.44	12.78	3.87
D3	Yellow	236	200	15	81.80	2.67	80.41	5.0 Y	8.0	11.1	58.89	59.93	7.08
E3	Magenta	191	79	146	50.63	51.28	-14.12	2.5 RP	5.0	12.0	29.91	18.95	22.14
F3	Cyan	0	133	165	49.57	-29.71	-28.32	5.0 B	5.0	8.0	12.48	18.06	29.14
A4	White (0.05*)	241	242	235	95.19	-1.03	2.93	-	9.5	-	84.37	88.07	69.39
B4	Neutral 8 (0.23*)	201	202	201	81.29	-0.57	0.44	-	8.0	-	56.65	59.00	48.30
C4	Neutral 6.5 (0.44*)	161	163	163	66.89	-0.75	-0.06	-	6.5	-	34.96	36.49	30.15
D4	Neutral 5 (0.70*)	121	121	121	50.76	-0.13	0.14	-	5.0	-	18.36	19.06	15.67
E4	Neutral 3.5 (1.05*)	83	84	85	35.63	-0.46	-0.48	-	3.5	-	8.45	8.82	7.39
F4	Black (1.50*)	50	50	50	20.64	0.07	-0.46	-	2.0	-	3.04	3.15	2.66

The table above follows the original X-Rite data sheet, given with the ColorChecker for CIE L*a*b* and Munsell notation. The CIE XYZ (for illuminant D50) and the sRGB (for illuminant D65) valueas are calculated by using the origin L*a*b* values. According to X-Rite these values are "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."

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