



Overview

Product name	TE299 D
Principle	A color test chart for high-precision measurements, such as those used to evaluate the performance of automotive camera systems. It has been developed for use with the Vega light source.

Features

Color patches

Type/s of pattern	25 patches (in respect to but not identical to the X-Rite ColorChecker SG) <ul style="list-style-type: none"> • 3 gray steps • RGBCMY • 16 mixed colors
Color values	Individually measured, values are provided in a separate Acceptance Protocol. Example measurement is given at the end of this data sheet.
Size of color patch [mm]	12 x12 mm
Surface finish	Transparent charts may show scratches or streaks. This issue does not affect the test chart's function, as the scratches/streaks are not visible under standard 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	Transmissive (D)		
Aspect ratio	1:1		
Chart size [mm]	W	H	D
	D60	100	100
			4.5
Picture size [mm]	W	H	
	D60	60	60
Material	Photographic color film, not suitable for IR		



Mounting	Black anodized aluminum and PLA plate, magnet mount to Vega
Chart size tolerances	+/- 0.15 mm
Service life	<p>Photographic color film 2 years</p> <p>Please check annually if a new reference measurement is necessary for color targets.</p> <p>Color film or some filter foils used for transparent charts may fade over time, especially when exposed to sunlight (ultraviolet light) or strong light sources. We therefore recommend storing the chart in its folder or case when not in use and minimizing unnecessary exposure to light.</p> <p>We also recommend and offer a recalibration of the chart after 2 years of regular use.</p>
Storage	<p>Dark, dry, and free from harmful gas (e.g., formaldehyde or ozone).</p> <p>20 °C and 25 °C with a humidity of 60% – 65% and no direct sunlight at any time.</p>
Usage limitations	Do not use the test chart above 50 °C, short-term exposure to 60 °C is possible but may accelerate aging. Above 60–70 °C, risks include dye degradation (especially cyan), IR reversion (reddish cast), and softening of the gelatin layer.
Scope of delivery	Test chart

Miscellaneous

Evaluation / Assessment	Supported by iQ-Analyzer (since version V1.12) Visual appraisal
Reference data iQ-Analyzer-X	Individual reference file provided XYZ, Lab values calculated from measured spectrum
Measurement device	AvaSpec Mini spectrometer used with VEGA as light source https://www.image-engineering.de/content/products/charts/IE_reference_data_accuracy.pdf
Related Products	Vega light source, VLS (Versatile Light System), TE294
Terms & Conditions	image-engineering.de/terms-and-conditions



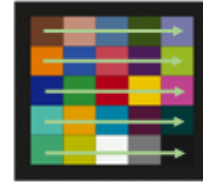
Example Acceptance Protocol

TE299

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Acceptance protocol

SN: _____
 Order Confirmation: _____
 Date: September 29, 2025
 Operator: _____



Color values of all 25 patches (white point D65)

	Name	X	Y	Z	x	y	L	a	b		
ColorChecker related colors	A1	dark skin	0,0576	0,0429	0,0080	0,5309	0,3951	24,5925	21,4036	30,9127	
	B1	light skin	0,3474	0,2959	0,1501	0,4379	0,3729	61,2953	24,3153	29,9520	
	C1	blue sky	0,1029	0,1197	0,2500	0,2176	0,2534	41,1754	-8,1764	-23,8830	
	D1	foliage	0,0308	0,0417	0,0136	0,3580	0,4843	24,2151	-13,9423	22,9720	
	E1	blue flower	0,1494	0,1503	0,3027	0,2479	0,2496	45,6807	3,9546	-24,1848	
	A2	orange	0,3496	0,2360	0,0124	0,5847	0,3946	55,6806	49,2875	78,5659	
	B2	purplish blue	0,0683	0,0564	0,2436	0,1854	0,1532	28,4945	16,0592	-44,6957	
	C2	moderate red	0,2002	0,1127	0,0378	0,5709	0,3213	40,0251	55,9976	31,3361	
	D2	purple	0,0319	0,0215	0,0353	0,3594	0,2427	16,2636	22,1640	-8,1363	
	E2	yellow green	0,2790	0,3466	0,0358	0,4218	0,5241	65,4811	-18,9303	76,4321	
	A3	blue	0,0239	0,0147	0,1059	0,1653	0,1017	12,4169	23,9876	-42,9904	
	B3	green	0,0811	0,1502	0,0461	0,2923	0,5415	45,6612	-45,6926	36,6078	
	C3	red	0,1183	0,0584	0,0035	0,6566	0,3238	28,9540	55,7375	44,9369	
	D3	yellow	0,5985	0,5475	0,0309	0,5086	0,4652	78,8954	19,5360	102,6083	
	E3	magenta	0,1888	0,1048	0,1189	0,4577	0,2540	38,6865	56,0199	-1,3065	
	A4	greenish blue	0,1996	0,3166	0,4132	0,2148	0,3407	63,0645	-43,5897	-8,4819	
	B4	orange yellow	0,4584	0,3779	0,0268	0,5312	0,4378	67,8631	30,6382	86,4268	
	C4	cyan	0,1189	0,1557	0,3778	0,1823	0,2387	46,4083	-18,9191	-32,9334	
	D4	purple red	0,0290	0,0202	0,0175	0,4346	0,3027	15,6021	20,0898	3,9660	
	E4	dark petrol	0,0086	0,0127	0,0151	0,2373	0,3479	11,0515	-12,2141	-1,4316	
	A5	bluish green	0,1157	0,2146	0,1576	0,2371	0,4398	53,4512	-51,5532	14,7254	
	B5	mustard	0,3789	0,4026	0,0337	0,4648	0,4939	69,6533	-1,2192	84,8850	
	neutrals	C5	white	0,9505	1,0000	1,0888	0,3127	0,3290	100,0000	0,0000	0,0000
		D5	neutral	0,1535	0,1705	0,1789	0,3053	0,3390	48,3186	-4,9542	1,3623
		E5	neutral < 0,1	0,0036	0,0045	0,0034	0,3125	0,3909	4,0684	-2,7880	2,1250

SPECTRAL ANALYSIS
 Normed to whitepoint
 X = 0,95047; Y = 1; Z = 1,08883

Measured with AvaSpec Mini spectrometer, clear patch 100% transmission
https://www.image-engineering.de/content/products/charts/IE_reference_data_accuracy.pdf
 Vega light source, 5000K

TE299AP251212