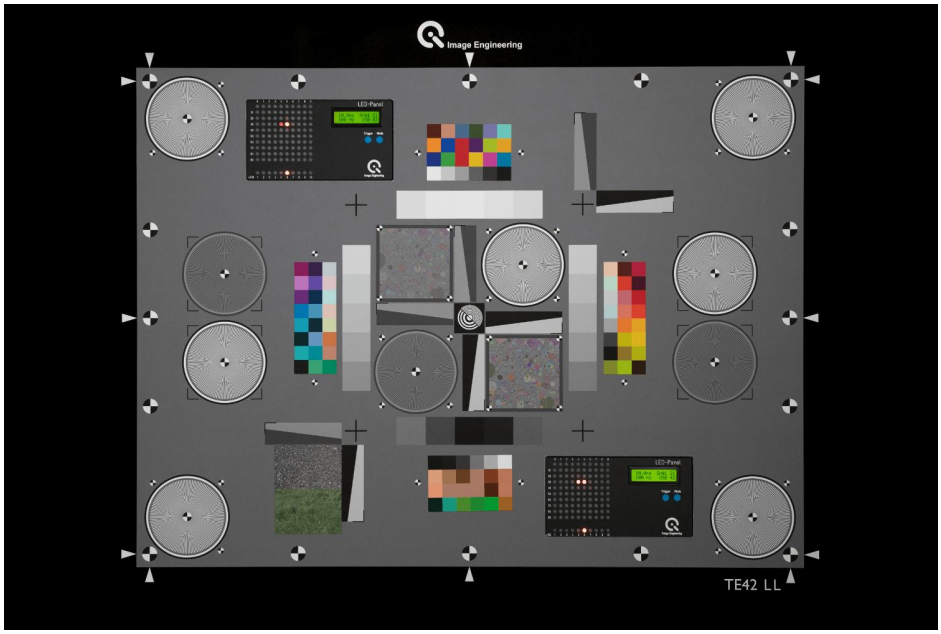
TE42-LL-T A datasheet



Overview

Product name	TE42-LL-T
Principle	A multipurpose test chart for the analysis of resolution, texture reproduction, acutance, dynamic range, noise, color reproduction, distortion, shading, chromatic aberration, and visual analysis. This variant is a combination of the regular TE42-LL chart and two LED-Panels for timing measurements. The ability to analyze all of the critical low-light and image quality factors in one image. ISO 19093 recommends using this chart for the best measurement results.

Features

OECF

Type/s of pattern	Grayscale
Number of steps	20
Contrast	≈ 20:1 (26 dB, 4.4 f-stops)
Density/Refection values	Individually measured values are provided in a separate Acceptance Protocol. Production tolerance is ± 0.03 OD.

Siemens stars

Type/s of pattern	10 Sinusoidal Siemens stars • 1 center star, full circle, full contrast • 1 center star, full circle, low contrast • 4 corner stars, full circle, full contrast • 2 lateral stars, full circle, full contrast • 2 lateral stars, full circle, low contrast
Modulation	Full contrast: ≈ 95 % (S) / ≈ 92 % (H) Low contrast: ≈ 55 % (S) / ≈ 58 % (H) Production tolerance is ± 3%.
Cycles	144

Diameter stars	4:3 A1066 100 mm
Diameter registration marks	A1066 H 8 mm
Sample rate* [MP]	minimum maximum A1066 H 2 70 (> 8K)**

Slanted edges

Type/s of pattern	8 Slanted Edges • All sub-charts in horizontal and vertical orientation • Four in the center part, four in the lateral area • Each has a low and high contrast
Modulation	Low contrast: ≈ 48%, high contrast: ≈ 82%
Size of sub-chart	4:3 [mm] A1066 104 x 30
Sample rate* [MP]	minimum maximum A1066 H ---*** 70 (> 8K)**
Density / Refection values	Individually measured values are provided in a separate Acceptance Protocol. Production tolerance is ± 0.03 OD.

Dead Leaves/Noise patches

Type/s of pattern	2 Dead Leaves in the center area, according to the approach from 2016 • One sub-chart low contrast • One sub-chart high contrast
Modulation	High contrast Low contrast
Size of sub-chart	4:3 [mm] A1066 94 x 94
Sample rate* [MP]	minimum maximum A1066 H 2**** 70 (> 8K)**

Color patches

Type/s of pattern	96 patches (similar but not identical to the X-Rite ColorChecker SG) • 12 gray steps • RGBCMY • 12 skin tones • 10 pastel colors • 56 mixed colors
Color values	Individually measured values are provided in a separate Acceptance Protocol.

Distortion grid

Type/s of pattern	10 black and white registration marks distributed around the chart

Shading

Type/s of pattern	Neutral, uniform gray background

Visual appraisal, digitalization process

Type/s of pattern	grass, stones

General description hardware

Type	Reflective
Aspect ratio	4:3
Chart size tolerances	+/- 2 mm as they are handmade in-house and depend on the edge protection type
Chart size [W x H x D]	W [mm] / H [mm] / D [mm] A1066: 1245 / 835 / 3.2
Picture size	W [mm] / H [mm] A1066: 900 / 675
Material	H version background, Siemens stars, slanted edges, Dead Leaves, OECF: photographic paper with matt finishing. All versions colors, grass + stones: matt print A1066 is made from three parts, which can differ in gray value with a tolerance of ± 0.03 OD.
Mounting	Aluminum composite panel (aluminum Dibond), size A1066
Edge protection	A1066 – No
Service life	2 years
Storage	Dark, dry, and free from harmful gas (e.g., formaldehyde or ozone). 20 °C and 25 °C with a humidity of 35% – 65% and no direct sunlight at any time.
Scope of delivery	Test chart, stable cardboard envelope (A460 charts)

Miscellaneous

Evaluation/Assessment	Supported by iQ-Analyzer, visual appraisal is possible
Reference data iQ-Analyzer-X	An individual reference file is provided
Measurement device	X-Rite eXact https://www.image-engineering.de/content/products/charts/IE_reference_data_accuracy.pdf
Accessories	Chart case A460, A1066
Related Products	iQ-Chartmount, LED-Panel, iQ-Near Focus, iQ-Flatlight, VCX
Terms & Conditions	image-engineering.de/terms-and-conditions

* If the chart fills the image height, the chart can be used with a camera of a minimum/maximum sample rate, stated in megapixels (MP).

** HDTV ~ 2.1 MP, 4K ~ 8.3 MP, 8K ~ 33 MP

*** No lower limit for slanted edges. Small ROI increases variance, min. 100-pixel ROI required.

**** ROI should be reproduced by at least 128 by 128 pixels, with a lower limit based on this requirement.