

ColorTool ALSVV

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Adaptive Lichttechnische Systeme
und Visuelle Verarbeitung

Source & Setup

<https://github.com/vinhtrinhvt/ColorToolVT2024>

ColorToolVT2024 Public

main 1 Branch 0 Tags

Go to file t Add file <> Code

vinhtrinhvt Merge branch 'main' of https://github.com/vinhtrinhvt/ColorToolVT2024 403597a · 12 hours ago 12 Commits

2	1_ExampleFormat_Input1.xlsx	update	20 hours ago
1	2_ExampleFormat_Input2.txt	Add files via upload	20 hours ago
	About.txt	updates	20 hours ago
	CopyRight.txt	updates	20 hours ago
	Helps.txt	updates	20 hours ago
	LICENSE	Initial commit	20 hours ago
3	ManualColorToolALSUVV.pdf	Add files via upload	20 hours ago
4	PW-VinhTrinh2024.txt	Add files via upload	20 hours ago
5	README.md	Update README.md	20 hours ago
	Requirements.txt	updates	20 hours ago
6	SetupOfColorToolVinhTrinh.exe	update	12 hours ago
	desktop.ini	SetupFile	20 hours ago

format of Input

setup

About

It is to calculate/analysis/optimize all of color quality, light quality and relevant things of light sources, images, cameras and color sensors

Readme
MIT license
Activity
1 star
1 watching
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Releases

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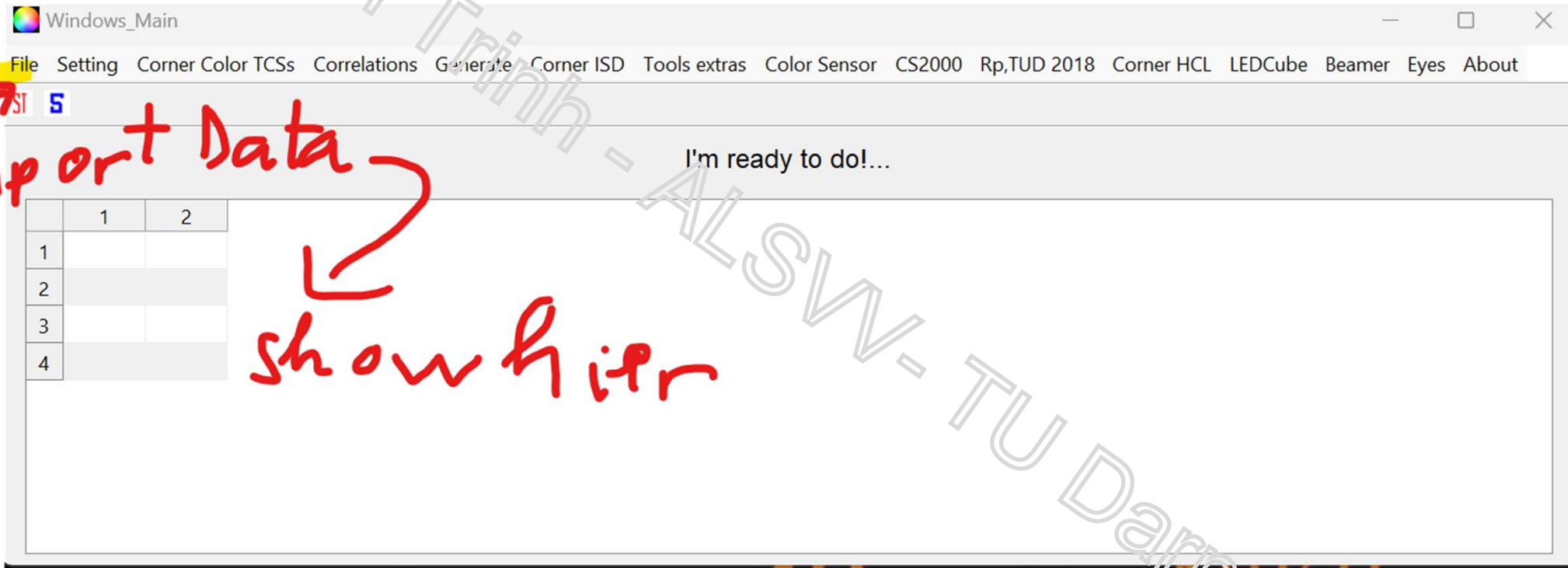
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Interface after Setup



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Helps and working scope



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There are 11 items in the structure of this software- including:

- | | | |
|------------------------|----------------|---------------------|
| 1-File | 2-Setting | 7-Corner Color TCSs |
| 4-Correlations | 5-Generate | 8-Corner ISD |
| 7-Tools extra | 8-Color Sensor | 9-Corner CS2000 |
| 10-Corner Rp,TUD 2018 | 11-Corner HCL | 12-75out |
| 13-Stop urgently (ST). | | |

A) Simple modes: "About" and "Format 4 input Data" are simple items so that users can understand information about this software, version, author and the format of input data including txt and xls file.

B) Basic modes:

- 1- "Setting 4 IES" in "Setting" is to give setting of the calculation of IES-TM30-15.
- 2- "Other Parameters" in "Setting" to set other parameters for Color memory.
- 3- "Draw Option" in "Setting" is control the drawing.
- 4- "Corner ISD" is to process ISD file and make them into available xls files for further uses.

C) Main Modes:

- 1- Calculating Color in the "File" is to calculate all about color quality and light quality.
- 2- "Corner Color TCSs" is to process everything concerning to test color samples.
- 3- "Correlations" is to find the correlations between color metrics with the format that this software has given.
- 4- "Generate" is to generate the spectra about semiconductor LEDs, pc-LEDs and the standard spectra.
- 5- "Color Sensor" is to matrizieren wiht color sensors.
- 6- "Corner CS2000" is to connect and measure with Camera CS2000.
- 7- "Corner Rp,TUD 2018" is to calculate and synthesize for the model color preferences of TU Darmstadt.
- 8- "Corner HCL" is to calculate and synthesize for the model HCLs.

D) The most important mode: Calculating Color in the "File" is frequently used so that all color metrics can be calculated from the input data.

E) The additional item "Tools extra" is added on 20.10.2016. This item is used to help you in converting from n-nm-spectra into 1-nm-spectra and inversely. It will be developed further for more tools such as the addition, substraction, dividition and multiplition of spectra or determination of reflectance spectrum of colors.

F) "Stop urgently" with the red text "ST" is to stop timer in the case of long term measurements and others.

Vinh will write this continuously.

To understand total concepts, please aks Vinh, vinh@lichttechnik.tu-darmstadt.de, 017695727496

Password: VinhTrinh2024

Gernerl First Actions



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1

Windows_Main

File Setting Corner Color TCSs Correlation

Open Lightsources

Open Lightsources & Illuminance

Calculation

Back Spectrum

2

Windows_Main

Import DATA (ex.Spectra...etc) in txt or excel (sheetname=Quality) with the corre

Save Table (only

Save Data (Qual

Force_Mode: "Fo

Stop urgently

Optimization on

All Menalopsin M

Build BioLight Ge

Force to Keep Se

Draw imported

Organisieren Neuer Ordner

ColorToolVT2024

SetupColorTool

SourceColorToolALS

1_ExampleFormat_Input1

3

Windows_Main

File Setting Corner Color TCSs Correlations Generate Corner ISD Tools extras Color Sensor C

5

Importing is done!...

	1_Glühlampe	4_LL_KW	10_Tageslicht_1
380	0.0029	0.0028	0.0354
381	0.0031	0.0029	0.0367
382	0.0033	0.0031	0.0358
383	0.0035	0.0031	0.0364
384	0.0037	0.0031	0.0412
385	0.0040	0.0032	0.0482
386	0.0042	0.0033	0.0542
387	0.0044	0.0033	0.0582
388	0.0047	0.0035	0.0649

4

Windows_Main

File Setting Corner Color TCSs Correlations Generate

SI

Draw Option

Setting 4 IES

other Parameters

Automatic Save

Fig - No save

✓ Fig & Save

No Fig - Save

✓ Hidden your figs Strg+H

	1_Glühlampe	4_LL_KW	10_Tageslicht_1
380	0.0029	0.0028	0.0354
381	0.0031	0.0029	0.0367
382	0.0033	0.0031	0.0358

Example 1 for importing & Cal. All of Color & Other Aspects of Spectra

1. Main Menu: The 'Calculation' menu is open, showing options for '1-Only Basics & BioPlant Parameters', '2-Basics & CIE CRI', '3-Basics & CQS', '4-Basics & CIE 2012', '5-Basics & FCI', '6-Basics & MCRI', '7-Basics & IES TM-30-15', '8-Basics & MCPI', '9-Basics & (HCL,Healthy,Lightness)', '10-Basics, CQS & PB's Models', '11-Rp,TUD', and '12a-All, No Rp,TUD & Eye-Models & MI-Daylight'.

2. Parameter Input Dialog: The 'Enter y...' dialog is open, showing input fields for 'Grade(2=2°,10=10°,2015=15.10°)', 'ObserverGroup(Global,German,Chinese)', 'LightingScenario(metameric,multiCCT)', 'Illuminance in lux (or 500 750 ..etc)', 't_CS22 in h', 'f_CS22 0.5,1,1.5,2', 't_Gimenez_Minute, ex.60, 120..', 'digital_01_pupil_dilation (0 or 1)', and 'OK'/'Cancel' buttons.

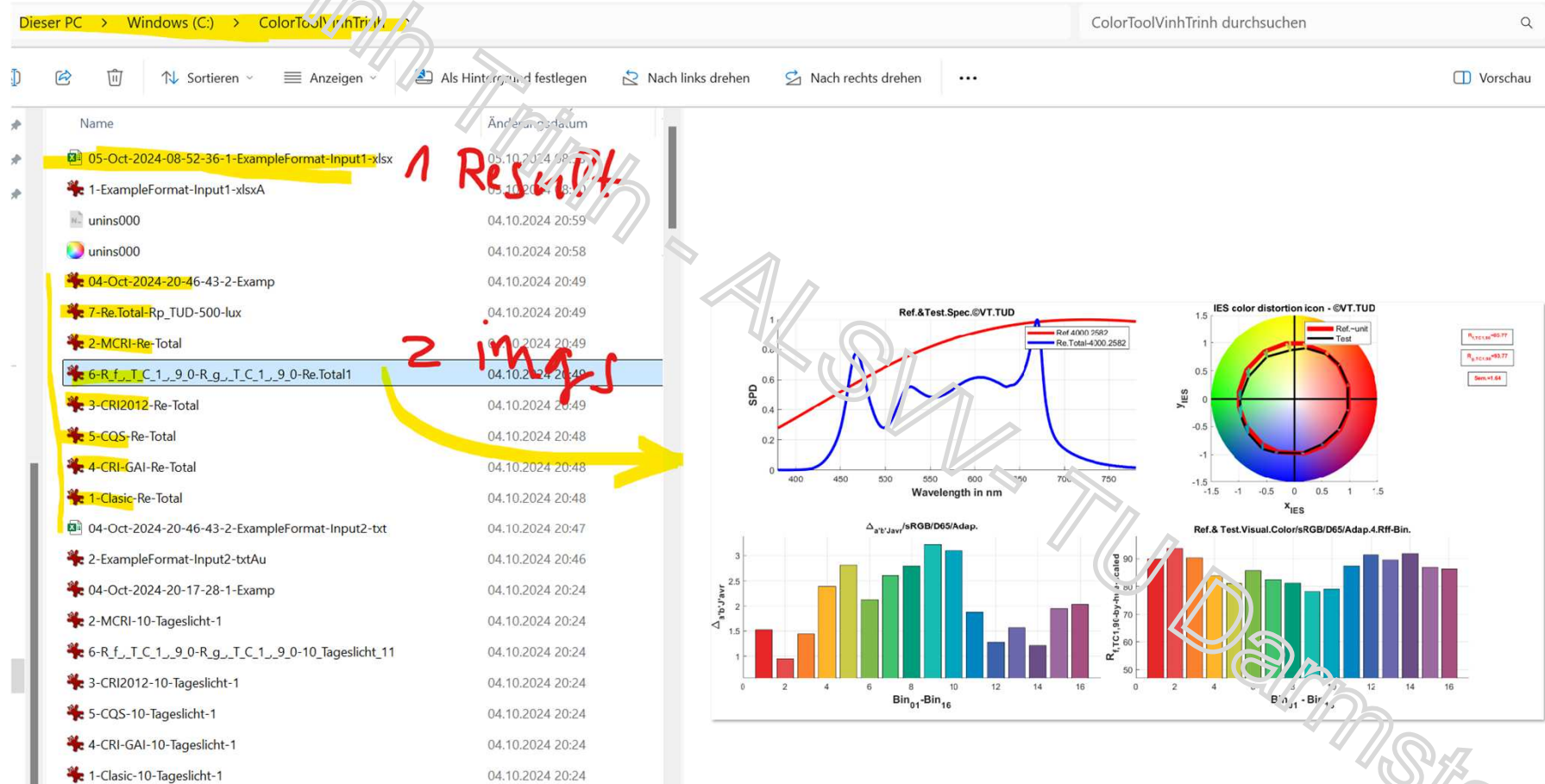
3. Data Table: The table displays colorimetric data for '1.Glühlampe 4.1L_KW_10_Tageslicht_1'. The columns are labeled 'x', 'y', 'z', 'X', 'Y', 'Z', 'u', 'v', 'u'', 'v'', 'CCT in K', 'Duv', 'Duv'', 'Luminance in cd/m² (CS45)', 'LER in lm/m²', 'mpER in mW/m²', 'D in Microvolts/m', 'a-low-grade paper in mW/m²', 'b-rag paper in mW/m²', 'c-oil paints on canvas in mW/m²', and 'd-tactile in mW/m²'.

4. Save Dialog: The 'Save Table (only)' option is selected in the 'Calculation' menu.

5. File Explorer: The 'Save Data' dialog is open, showing the file path 'C:\Users\...\.ColorTool\...' and the file name '05-Oct-2024-08-52-36-1-ExampleFormat-Input1.xlsx'.

Example 1 for importing & Cal. All of Color & Other Aspects of Spectra

6



Example 2 for importing & Cal. All of Color & only Healthy Pars.

Windows_Main

File Setting Corner Color TCSs Correlations Generate Corner ISD Tools extras Color

Open Lightsources
Open Lightsources & Illuminance
Calculation
Back Spectrum Inputs
Save Table (only)
Save Data (Quality)
Force_Mode: "For-Each"
Stop urgently
Optimization on Demand (amel-CS)
All Menalopsin M. Rea
Build BioLight General
Force to Keep Setting
Draw imported Spectra

Importing is

Calc amel & CS 4 OPTM
OPT (Mul.Spec, Mul.Set.)
Calc: CS2010,2018,2020,2021, Lucas2013
OPT (Mul.Spec, Mul.Set.)_SK23
Optimize_MulSpec_MulSet_SK23_NO_DL

Calc CS2010,2018,CS2020,CS2021, Lucas done!

	1_Glühlampe 4_LL_KW/10_Tageslicht_1	
Illuminance in lux	500 500 500	
CS_MRea_2010	0.47190.5024	0.5657
S2P	1.17811.9373	2.3762
alfa_2010	0.31280.6299	0.8217
CLA_2010	279.6421 634....	900.1463
CLA_2010	397.8406 489....	790.0395
amel	0.35620.6518	0.8598
amelD65	755.3782 755....	755.3782
CS_A_2018	386.0351 426....	663.3925
CS_2018	0.36580.3848	0.4657
amelD65	196.9633 360....	475.4568
[2013/Lucas] S_cone_photopsin	96.6823 351....	447.9090
[2013/Lucas] M_cone_photopsin	392.7100 477....	512.4771
[2013/Lucas] L_cone_photopsin	504.8887 477....	494.1697
[2013/Lucas] Rod_opsin	271.5261 440....	524.5354
[2013/Lucas] Melanopic_Melanopsin	215.0297 396....	524.7663
Exposed Time in h	1 1 1	
CLA_2020	386.0351 426....	663.3925
CS_2020_EQ1(q=411.3,r=-0.885)	0.33780.3563	0.4402
CS_2020_EQ2(q=355.7,r=-1)	0.36580.3848	0.4657
Spatial distribution	1 1 1	
CLA_2021	313.1386 496....	564.8127
CS_2021	0.32540.4136	0.4661
MDER	0.38960.7186	0.9576
MEDI in lx	194.7777 359....	475.2860
Supp_Gim in %	44.8356 50.7...	53.3717
pupil_dilation	0 0 0	



Danke für Ihre Aufmerksamkeit!