

Polymer material testing laboratory **Riga Technical University**

Paula Valdena 3, Rīga, LV-1048, Tālr.: 371 67089252; 371 29165769

TEST REPORT No. 2198

1. Test subject: ***Products' test specimens***
2. Customer: ***SIA "EcoDeck Profile"***
3. Address of the Customer: ***52-81 Lāčplēša street, Riga, LV-1011***
4. Information about the test specimens:
 - ◆ the Customer takes its own responsibility about the sampling of the test specimens;
 - ◆ 19 types of the products' test specimens supplied
 - ◆ the delivery date: ***19.12.2023.***
5. Test task: ***To perform accelerated ageing of the products' test specimens for 2000 hours in accordance with LVS EN ISO 4892-1:2016 and LVS EN ISO 4892-3:2016, as well as to determine the color change of the test specimens before and after accelerated ageing in accordance with test manual of the equipment***
6. Testing performed: ***15.03.2024 – 22.07.2024***
7. Translation of the test report No. 2198 is prepared in the English language on 3 pages and Appendices No.1-No.3, each on 2 pages
8. 3 eligible copies of the translation of the test report No. 2198 in English are prepared

TEST RESULTS

1. Products' test specimens with identification codes *NITRALEX "Priede"*, *NITRALEX "Antracīts"*, *NITRALEX "Kvarcs"*, *S2 "Antracīts" 300*, *S2 "Antracīts" 150*, *S1, B3, B2, B1, Nr.23.12., Nr.CHIN, Nr.DE, Nr.2018, Nr.2017, Nr.2023 EXP, Nr.A, Nr.B, Nr.C* and *Nr.D* were subjected to accelerated ageing by using Q-lab QUV-spray accelerated weathering testser equipped with black panel in accordance with LVS EN ISO 4892-1:2016 and LVS EN ISO 4892-3:2016. UVA 340 lamps were used. Irradiation power – 0.89 W/m². The total time of accelerated irradiation was 2000 hours by following the subsequent cyclic regime

- the 1st irradiation cycle for 8 hours with UV lamps switched on at 60±3°C,
- the 2nd condensation cycle for 3 hours and 45 min. with UV lamps switched off at 50±3°C,
- the 3rd water sprinkling cycle for 15 min. with UV lamps switched off.

V-7.8.2. R-04

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TEST RESULTS

1. Products' test specimens with identification codes *NITRALEX "Priede"*, *NITRALEX "Antracīts"*, *NITRALEX "Kvarcs"*, *S2 "Antracīts" 300*, *S2 "Antracīts" 150*, *S1*, *B3*, *B2*, *B1*, *Nr.23.12.*, *Nr.CHIN*, *Nr.DE*, *Nr.2018*, *Nr.2017*, *Nr.2023 EXP*, *Nr.A*, *Nr.B*, *Nr.C* and *Nr.D* were subjected to accelerated ageing by using Q-lab QUV-spray accelerated weathering testser equipped with black panel in accordance with LVS EN ISO 4892-1:2016 and LVS EN ISO 4892-3:2016. UVA 340 lamps were used. Irradiation power – 0.89 W/m². The total time of accelerated irradiation was 2000 hours by following the subsequent cyclic regime

- the 1st irradiation cycle for 8 hours with UV lamps switched on at 60±3°C,
- the 2nd condensation cycle for 3 hours and 45 min. with UV lamps switched off at 50±3°C,
- the 3rd water sprinkling cycle for 15 min. with UV lamps switched off.

V-7.8.2. R-04

Twice a week the racks with the test specimens were rotated for one position. The control and calibration of UV irradiation power was performed by using the radiometer CR10.

After the exposure the test specimens were delivered to the Customer.

2. The color change of the test specimens with identification codes *NITRALEX "Priede"*, *B2* and *Nr.23.12* were determined before and after UV irradiation by using *X-rite Ci7600 003684* spectrophotometer in accordance with test manual of the equipment.

Before the test the specimens were conditioned for 24 hours at standard conditions ($T=23\pm 2^{\circ}\text{C}$; $\text{RH}=50\pm 5\%$). The testing temperature in the laboratory $T_t=24.5^{\circ}\text{C}$. The relative moisture content $\text{RH}=53\%$.

Color coordinates

Identification code	Aging time	Lightness (black/white)	a coordinate	b coordinate	Chroma value (purity of a color)	Hue Value
	hours	L*	a*	b*	C*	h°
<i>NITRALEX "Priede"</i>	0	44.31	8.72	16.90	19.02	62.70
	500	66.88	3.87	9.26	10.04	67.35
	1000	77.64	1.36	3.76	4.00	70.10
	1500	82.29	0.53	2.32	2.38	77.15
	2000	84.22	0.42	2.66	2.69	80.96
<i>B2</i>	0	38.00	6.06	6.15	8.63	45.43
	500	43.67	9.52	10.99	14.54	49.09
	1000	43.10	10.44	11.82	15.77	48.54
	1500	42.79	10.81	11.86	16.05	47.67
	2000	43.15	10.78	11.56	15.81	47.01
<i>Nr.23.12.</i>	0	45.37	0.34	2.89	2.91	83.22
	500	49.83	1.00	1.84	2.10	61.53
	1000	49.39	1.08	1.40	1.77	52.43
	1500	49.15	1.07	1.14	1.57	46.80
	2000	49.50	1.07	1.08	1.52	45.26

Color coordinates of the products' test specimens before and after accelerated weathering

Identification	Aging time	Lightness change	a coordinate change	b coordinate change	Chroma change	Hue Change	**Color change	**Pass/Fail	Remarks
	hours	DL*	Da*	Db*	DC*	DH*	DEcmc	-	
NITRALEX "Priede"	500	22.58 L	-4.86 G	-7.63 B	-8.98 D	1.12 Y	12.52	Fail	Appendix No.
	1000	33.33 L	-7.36 G	-13.14 B	-15.02 D	1.13 Y	18.91	Fail	
	1500	37.98 L	-8.19 G	-14.58 B	-16.64 D	1.69 Y	21.46	Fail	
	2000	39.91 L	-8.30 G	-14.24 B	-16.32 D	2.27 Y	22.32	Fail	
B2	500	5.67 L	3.46 R	4.84 Y	5.91 B	0.71 Y	6.16	Fail	Appendix No.
	1000	5.09 L	4.39 R	5.67 Y	7.14 B	0.63 Y	6.96	Fail	
	1500	4.78 L	4.75 R	5.71 Y	7.42 B	0.46 Y	7.08	Fail	
	2000	5.14 L	4.72 R	5.41 Y	7.17 B	0.32 Y	6.93	Fail	
Nr.23.12.	500	4.45 L	0.66 R	-1.04 B	-0.81 D	-0.93 R	2.68	Fail	Appendix No.
	1000	4.02 L	0.74 R	-1.48 B	-1.14 D	-1.20 R	2.89	Fail	
	1500	3.77 L	0.73 R	-1.74 B	-1.34 D	-1.34 R	3.04	Fail	
	2000	4.13 L	0.73 R	-1.81 B	-1.39 D	-1.37 R	3.20	Fail	

** DEcmc 1%. It is supposed that no difference could be distinguished by human eye

REMARKS:

Test results correspond to the product, mentioned in the test report
 Reproduction of the test report in an incomplete form is not permissible without the permission of the testing institution.

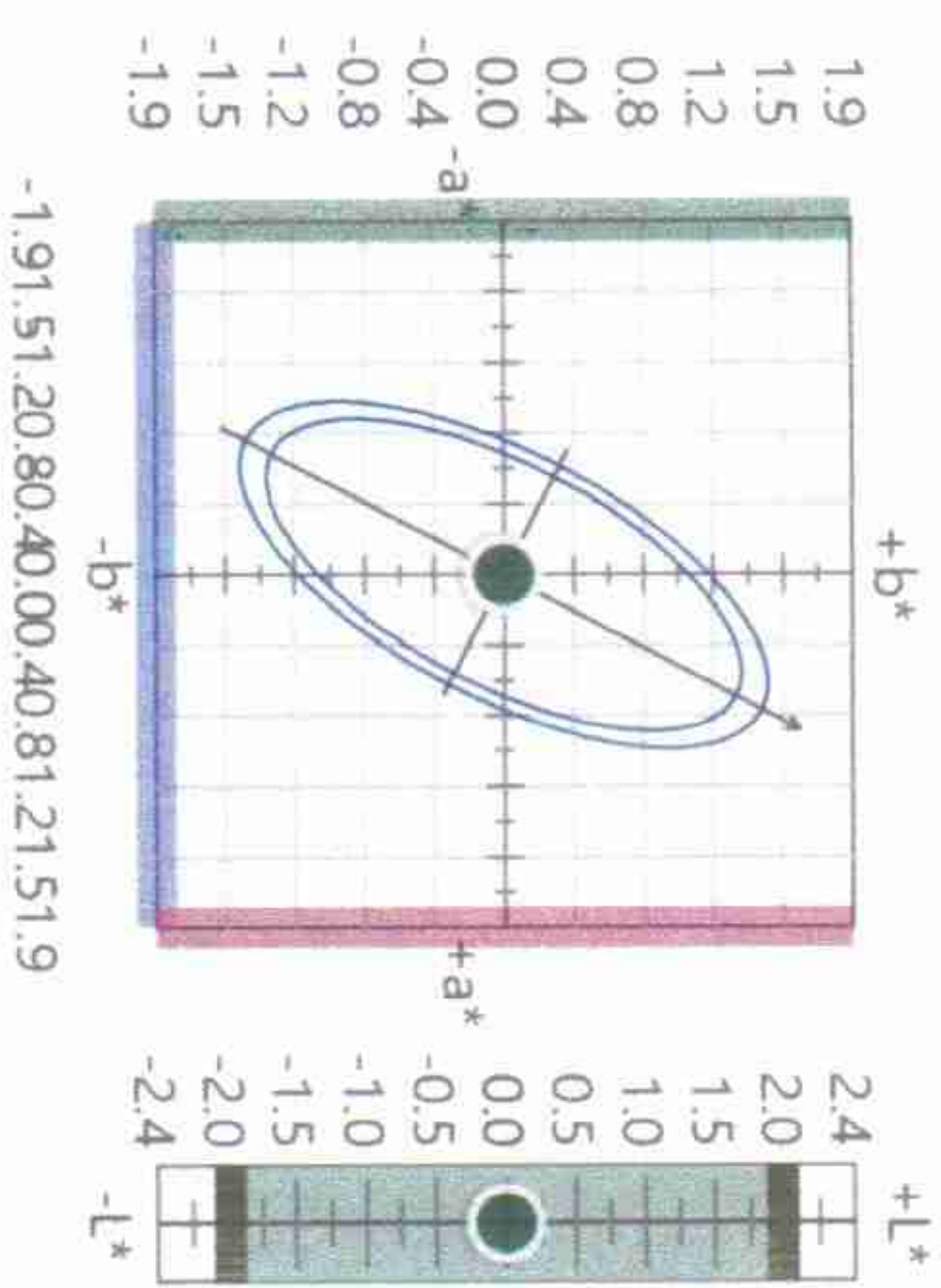
Testing was performed by the Researcher of the RTU Polymer Material Testing Laboratory

 **I. Bočkova**
Head of the RTU Polymer Material Testing Laboratory
 **J. Zicāns**

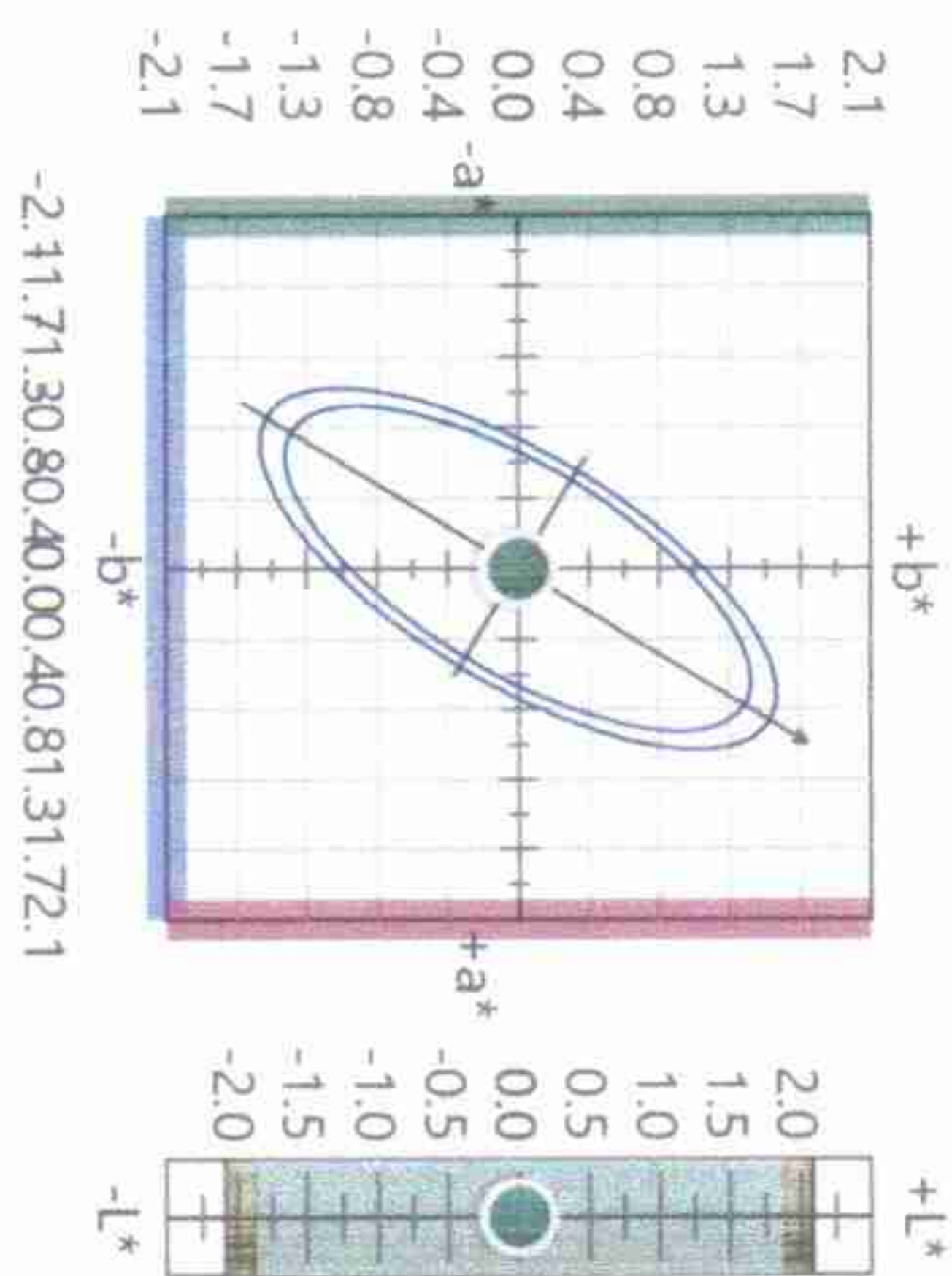


Test report issue date: 26.07.2024.

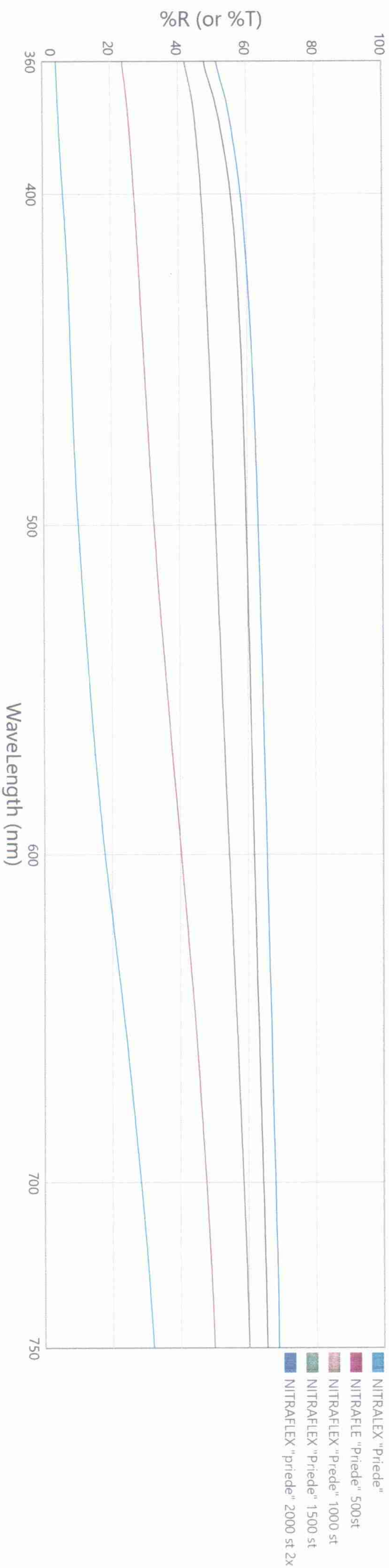
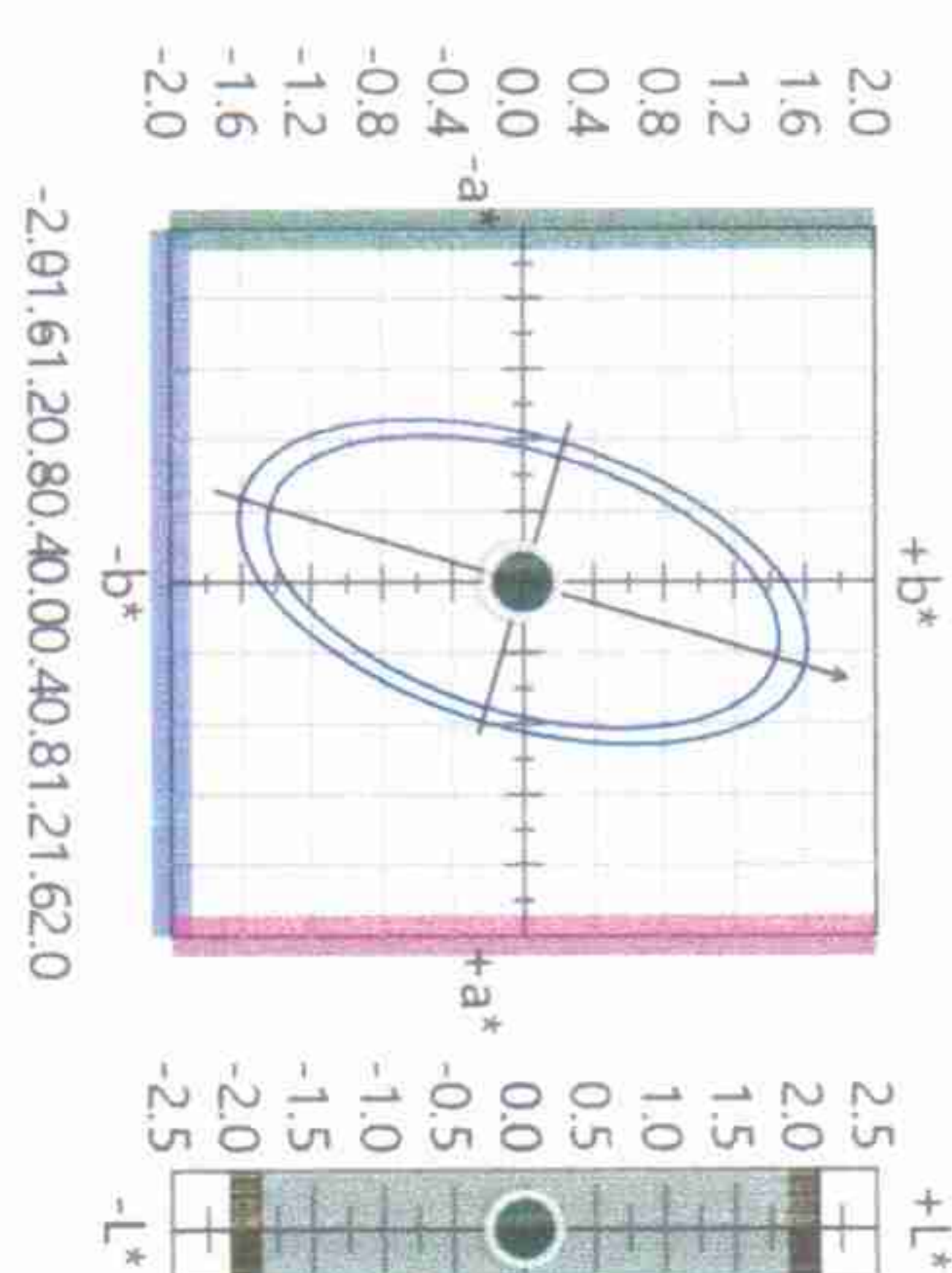
dCIELab: D65-10



dCIELab: A -10

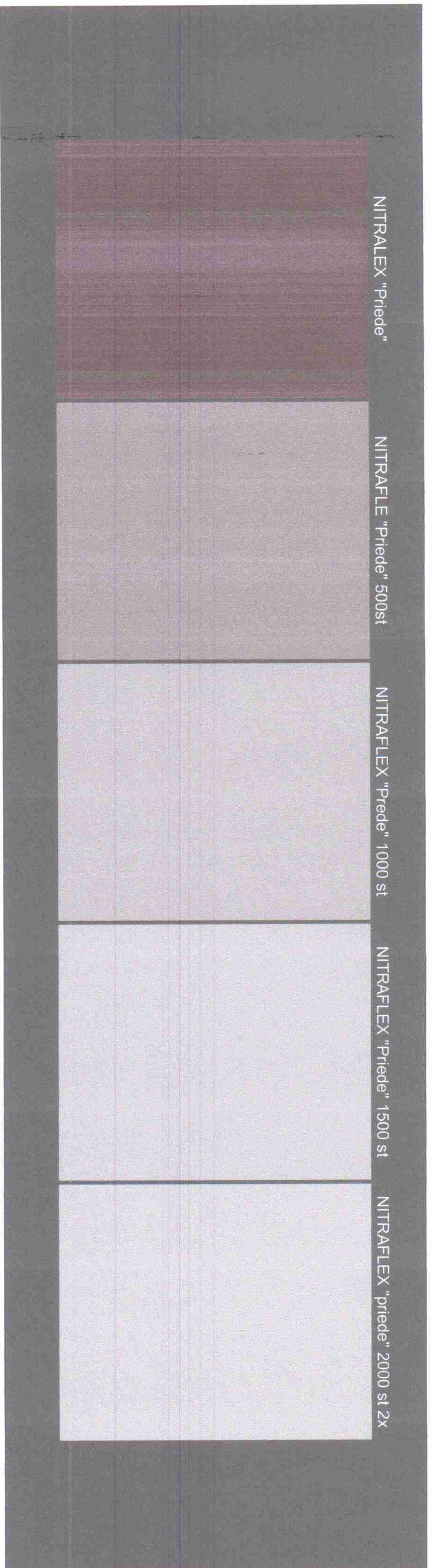


dCIELab: F02-10 (CWF)



Customer Name

NITRALEX Priede apstr [database=IB.mdb]



Tolerances:

D65-10
[A -10 , F02-10 (CWF)]

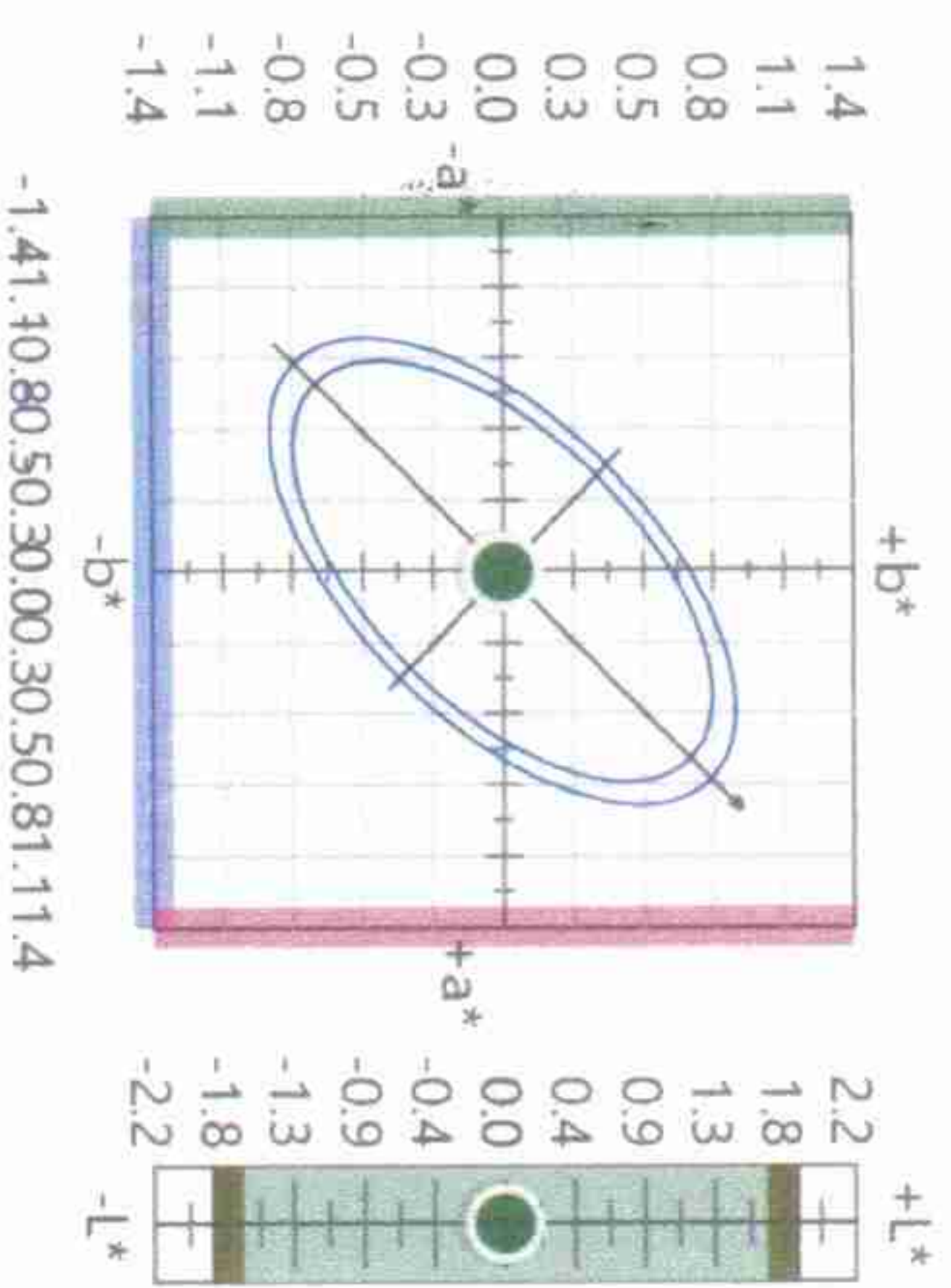
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1.81	0.85	1.17	1.43	0.60	1.00	0.10	2.00

Standard Name:

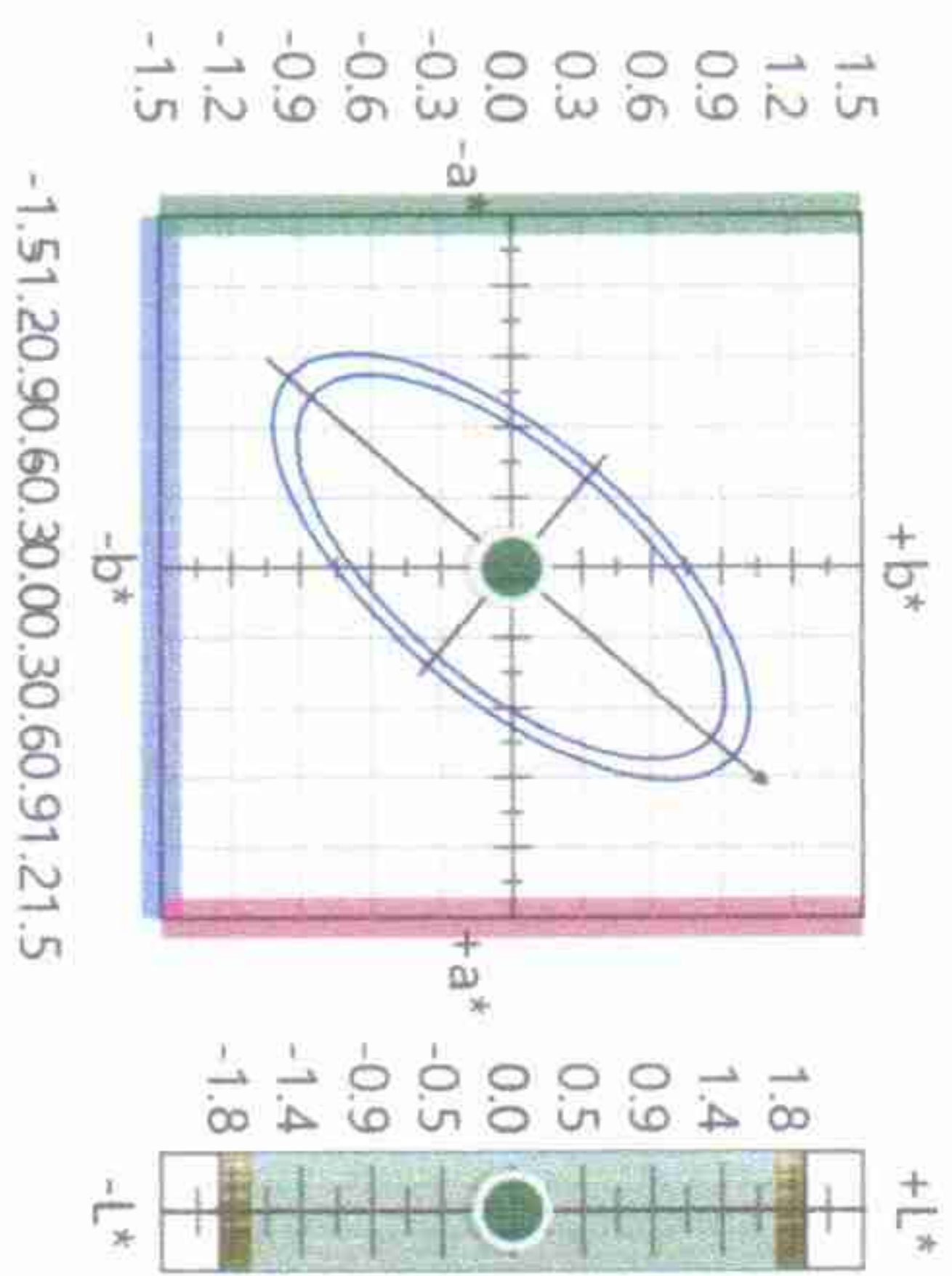
NITRALEX "Priede"
L* 44.31 a* 8.72 b* 16.90 C* 19.02 h° 62.70

<u>Trial Name</u>	<u>L*</u>	<u>a*</u>	<u>b*</u>	<u>C*</u>	<u>h°</u>	<u>DL*</u>	<u>Da*</u>	<u>Db*</u>	<u>DC*</u>	<u>DH*</u>	<u>Decmc</u>	<u>P/F Decmc</u>
NITRAFILE "Priede" 50	66.88	3.87	9.26	10.04	67.35	22.58 L	-4.86 G	-7.63 B	-8.98 D	1.12 Y	12.52	Failed
NITRAFLEX "Prede" 10	77.64	1.36	3.76	4.00	70.10	33.33 L	-7.36 G	-13.14 B	-15.02 D	1.13 Y	18.91	Failed
NITRAFLEX "Priede" 1	82.29	0.53	2.32	2.38	77.15	37.98 L	-8.19 G	-14.58 B	-16.64 D	1.69 Y	21.46	Failed
NITRAFLEX "priede" 2	84.22	0.42	2.66	2.69	80.96	39.91 L	-8.30 G	-14.24 B	-16.32 D	2.27 Y	22.32	Failed

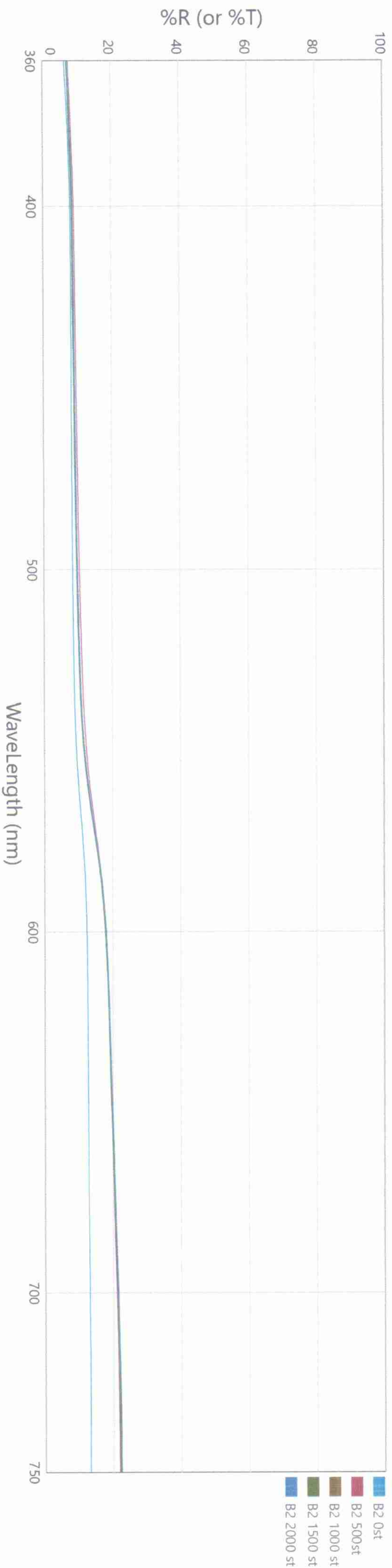
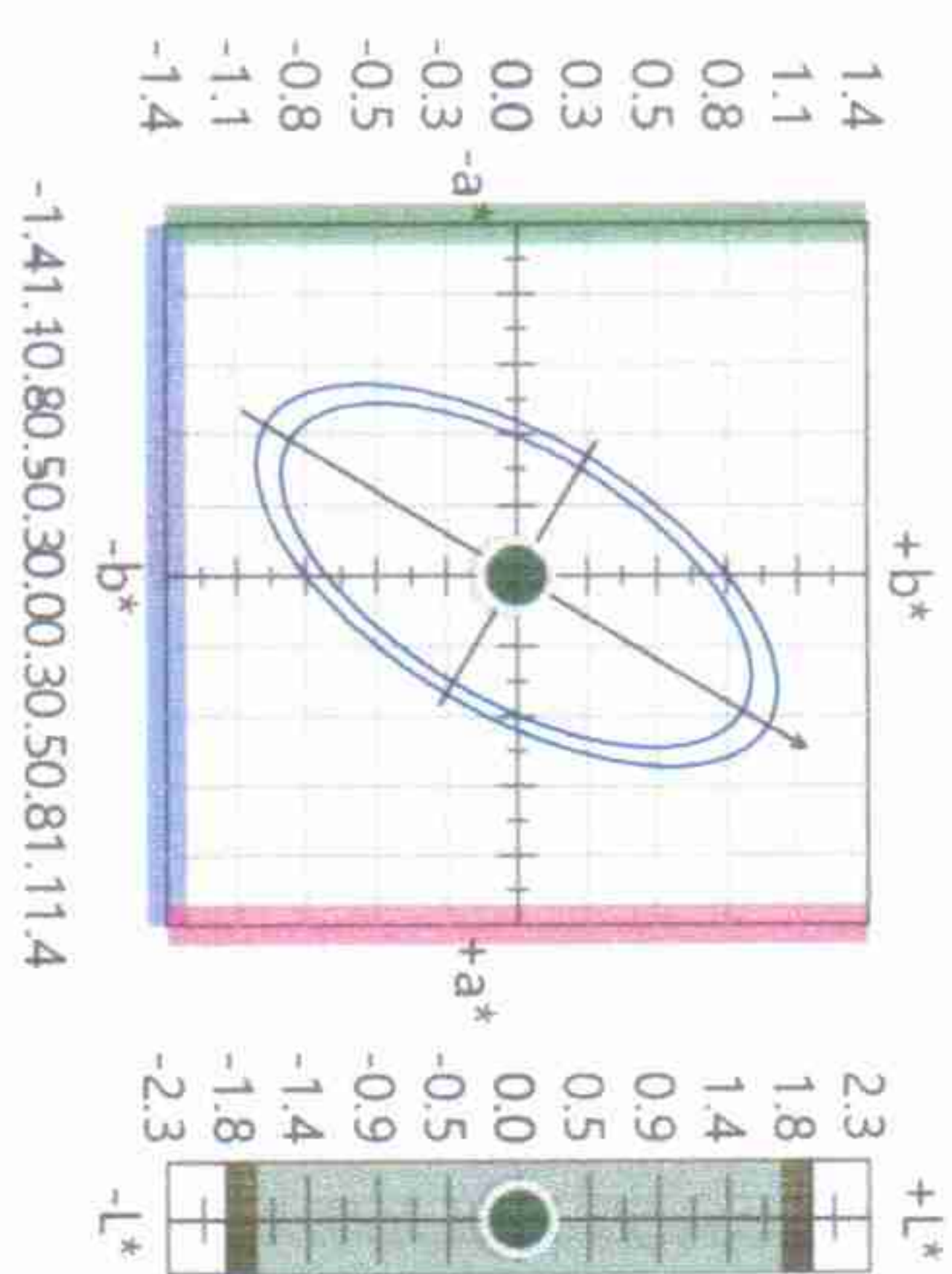
DCIElab: D65-10



DCIElab: A -10

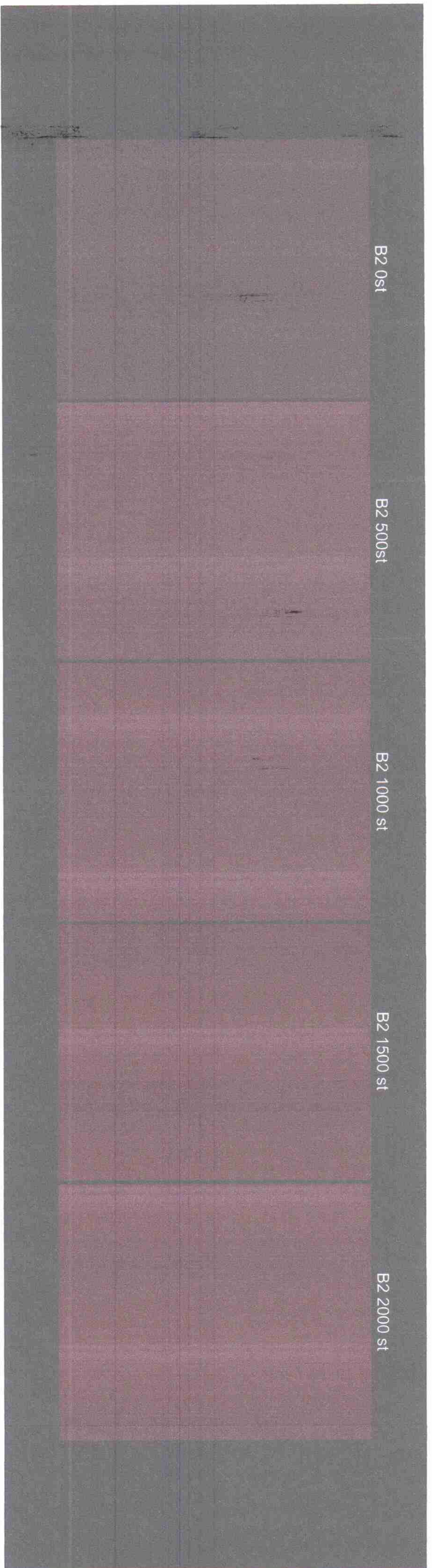


DCIElab: F02-10 (CWF)



Customer Name

B2 apstr [database=|B.mdb]



Tolerances:

D65-10
[A -10, F02-10 (CWF)]

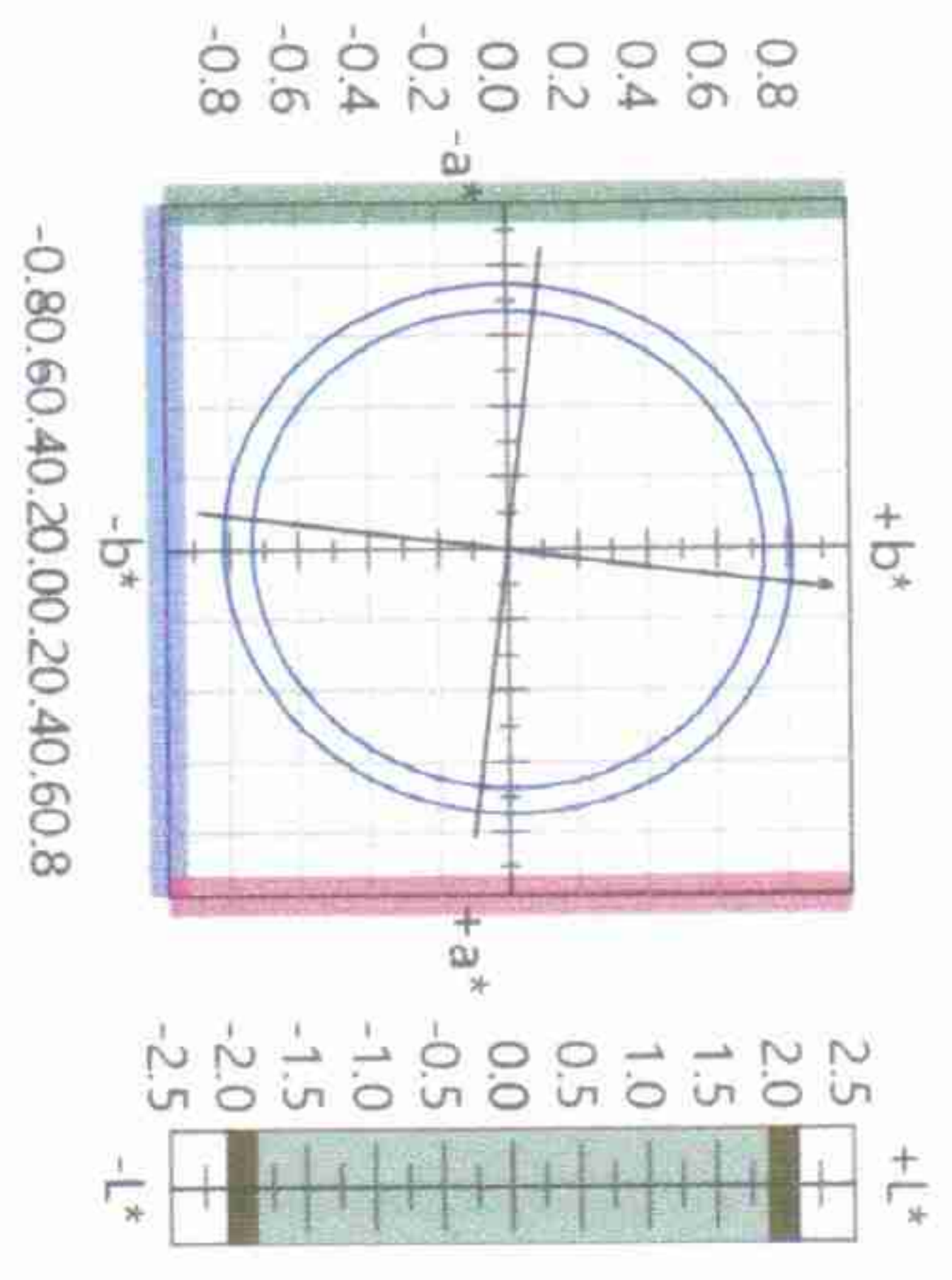
<u>Standard Nam</u>	<u>L*</u>	<u>a*</u>	<u>b*</u>	<u>C*</u>	<u>h°</u>	<u>DL* tol</u>	<u>Da* tol</u>	<u>Db* tol</u>	<u>DC* tol</u>	<u>DH* tol</u>	<u>P/F tol</u>	<u>Margin</u>	<u>l:c</u>
B2 0st	38.00	6.06	6.15	8.63	45.43	1.65	0.75	0.76	1.00	0.51	1.00	0.10	2.00

<u>Trial Name</u>	<u>L*</u>	<u>a*</u>	<u>b*</u>	<u>C*</u>	<u>h°</u>	<u>DL*</u>	<u>Da*</u>	<u>Db*</u>	<u>DC*</u>	<u>DH*</u>	<u>Decmc</u>	<u>P/F DEcmc</u>
B2 500st	43.67	9.52	10.99	14.54	49.09	5.67 L	3.46 R	4.84 Y	5.91 B	0.71 Y	6.16	Failed
B2 1000 st	43.10	10.44	11.82	15.77	48.54	5.09 L	4.39 R	5.67 Y	7.14 B	0.63 Y	6.96	Failed
B2 1500 st	42.79	10.81	11.86	16.05	47.67	4.78 L	4.75 R	5.71 Y	7.42 B	0.46 Y	7.08	Failed
B2 2000 st	43.15	10.78	11.56	15.81	47.01	5.14 L	4.72 R	5.41 Y	7.17 B	0.32 Y	6.93	Failed

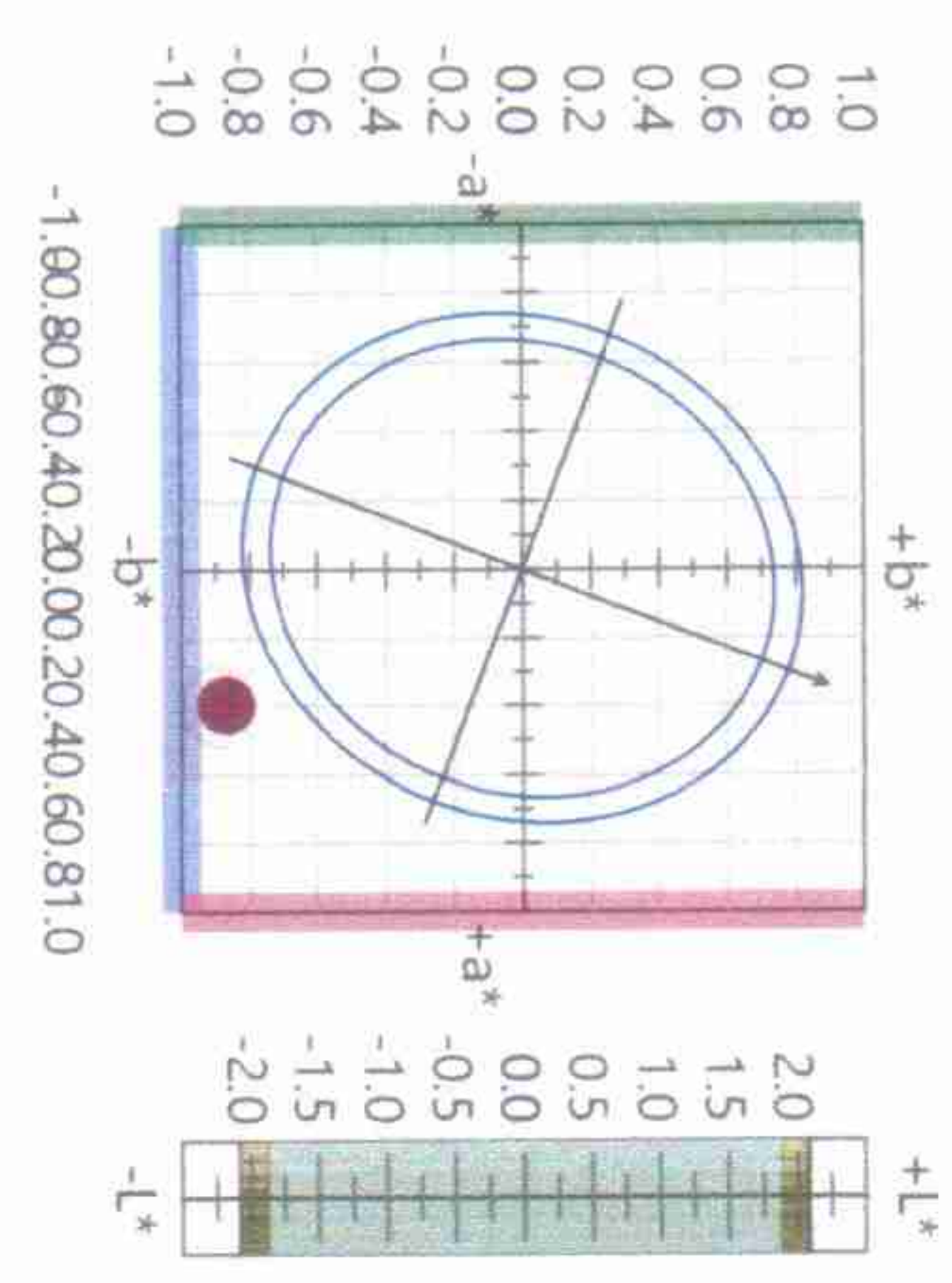
Customer Name

23.12 apstr [database=IB.mdb]

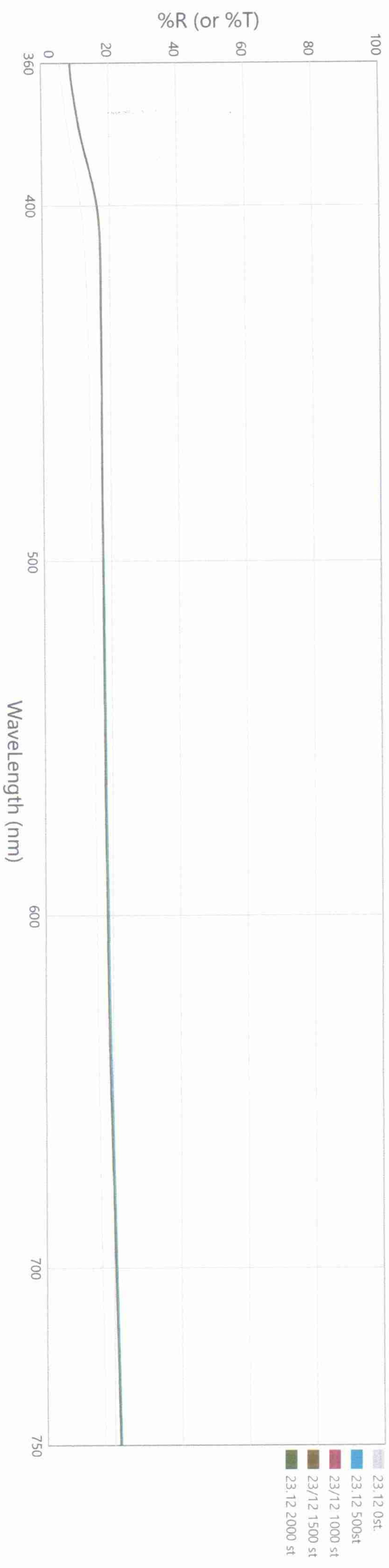
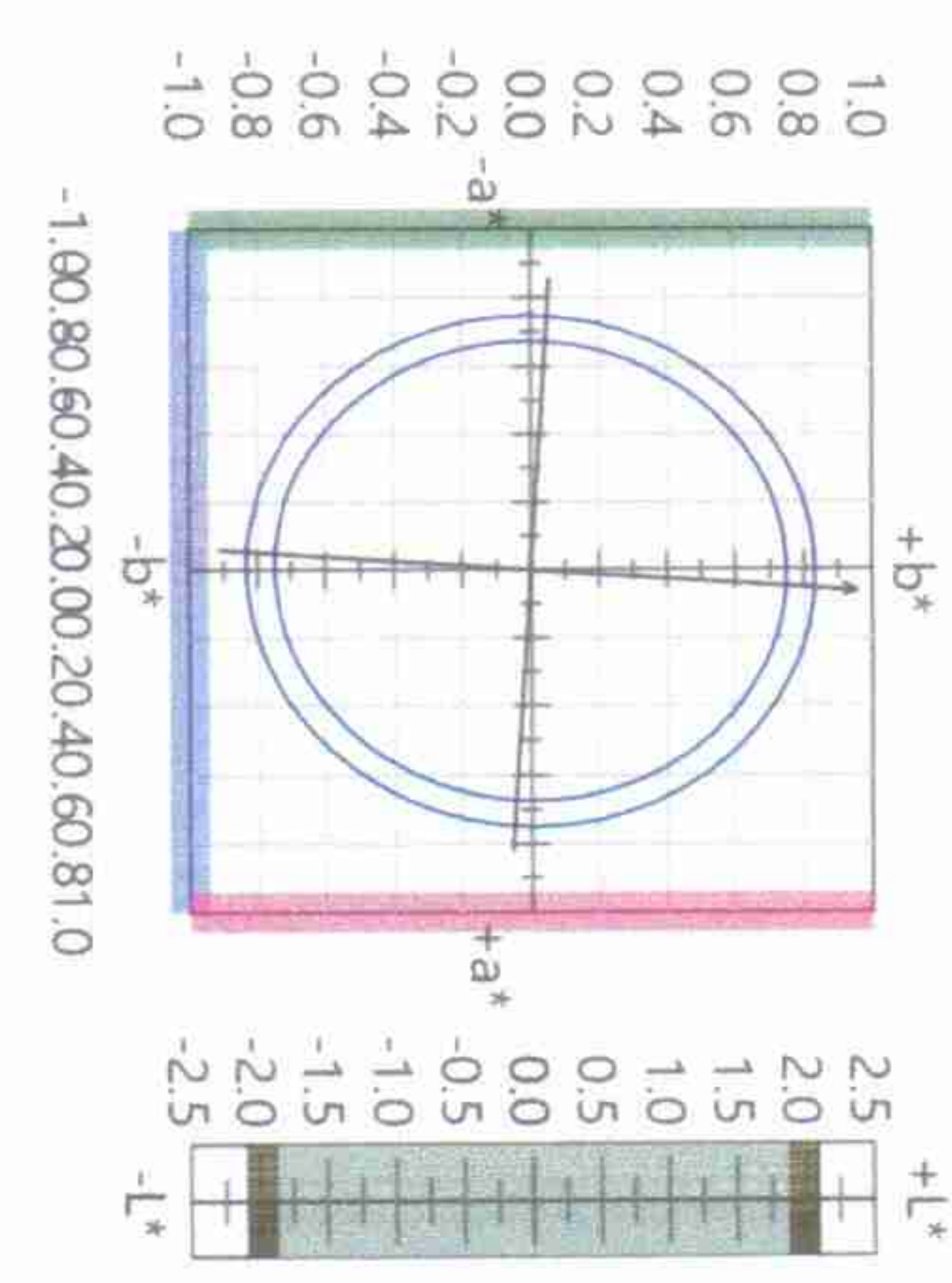
DCIElab: D65-10



DCIElab: A -10



DCIElab: F02-10 (CWF)

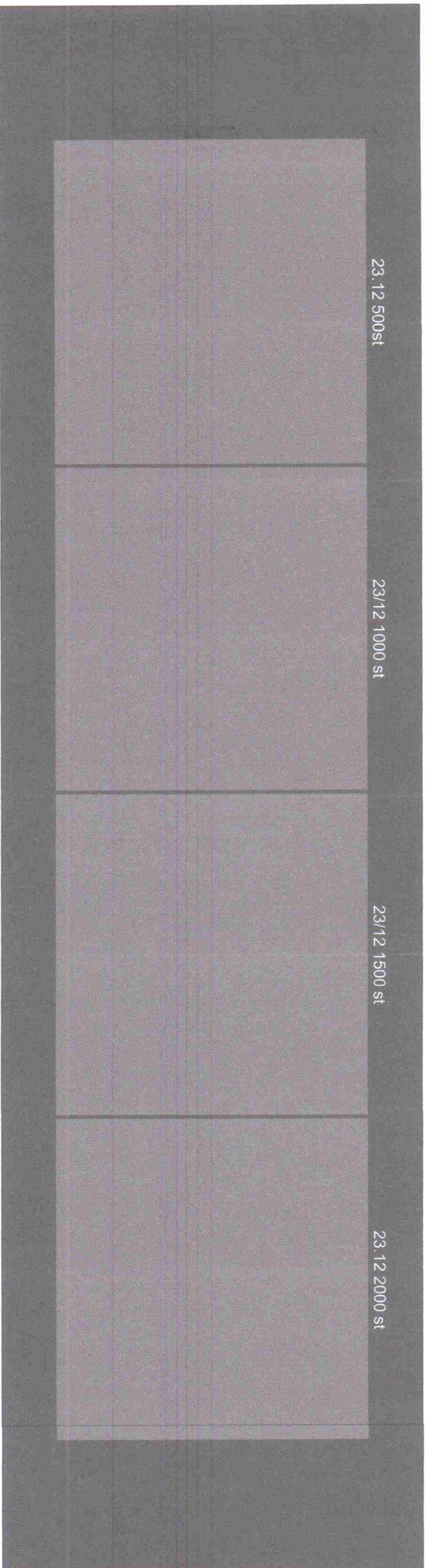


Lapa 1 no2

Customer Name

Pielikums Nr. 3

23.12 apstr [database=IB.mdb]



23.12 500st

23/12 1000 st

23/12 1500 st

23.12 2000 st

Tolerances:

D65-10
[A -10 , F02-10 (CWF)]

<u>DL* tol</u>	<u>Da* tol</u>	<u>Db* tol</u>	<u>DC* tol</u>	<u>DH* tol</u>	<u>P/F tol</u>	<u>Margin</u>	<u>l:c</u>
1.83	0.67	0.72	0.72	0.66	1.00	0.10	2.00

Standard Name

<u>L*</u>	<u>a*</u>	<u>b*</u>	<u>C*</u>	<u>h°</u>
45.37	0.34	2.89	2.91	83.22

<u>Trial Name</u>	<u>L*</u>	<u>a*</u>	<u>b*</u>	<u>C*</u>	<u>h°</u>	<u>DL*</u>	<u>Da*</u>	<u>Db*</u>	<u>DC*</u>	<u>DH*</u>	<u>DEcmc</u>	<u>P/F DEcmc</u>
23.12 500st	49.83	1.00	1.84	2.10	61.53	4.45 L	0.66 R	-1.04 B	-0.81 D	-0.93 R	2.68	Failed
23/12 1000 st	49.39	1.08	1.40	1.77	52.43	4.02 L	0.74 R	-1.48 B	-1.14 D	-1.20 R	2.89	Failed
23/12 1500 st	49.15	1.07	1.14	1.57	46.80	3.77 L	0.73 R	-1.74 B	-1.34 D	-1.34 R	3.04	Failed
23.12 2000 st	49.50	1.07	1.08	1.52	45.26	4.13 L	0.73 R	-1.81 B	-1.39 D	-1.37 R	3.20	Failed