

Final Results per stage and division
LPSK IPSC CUP 2025 Match #6
2025-07-17

OPEN Results per stage

Stage: 1. B1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	3.7915	40	10.55	3. Mathias Rinaldo	+Open	S	U	pewpewu2
2	41.04	18.4696	1.5562	23	14.78	20. Alexandra Rinaldo	+Open	L	U	ladyalex

Stage: 2. C1 -På innsian af Laghaborg.

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	6.3380	108	17.04	3. Mathias Rinaldo	+Open	S	U	pewpewu2
2	92.96	111.5499	5.8917	111	18.84	20. Alexandra Rinaldo	+Open	L	U	ladyalex

Stage: 3. D1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	7.1802	151	21.03	3. Mathias Rinaldo	+Open	S	U	pewpewu2
2	76.54	122.4658	5.4958	138	25.11	20. Alexandra Rinaldo	+Open	L	U	ladyalex

Stage: 4. B2 - Streiff

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	3.9911	36	9.02	20. Alexandra Rinaldo	+Open	L	U	ladyalex
2	40.89	18.4013	1.6320	11	6.74	3. Mathias Rinaldo	+Open	S	U	pewpewu2

Stage: 5. C2- På utsian af Laghaborg

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	60.0000	4.9554	50	10.09	3. Mathias Rinaldo	+Open	S	U	pewpewu2
2	82.15	49.2876	4.0707	53	13.02	20. Alexandra Rinaldo	+Open	L	U	ladyalex

Stage: 6. D2

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	6.2217	110	17.68	20. Alexandra Rinaldo	+Open	L	U	ladyalex
2	90.46	108.5540	5.6283	86	15.28	3. Mathias Rinaldo	+Open	S	U	pewpewu2

STANDARD Results per stage

Stage: 1. B1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	1.2380	18	14.54	4. Axel Forster	-Standard	S	U	
2	33.13	14.9063	0.4101	7	17.07	13. Henrik Lundh	-Standard	S	U	
3	8.28	3.7251	0.1025	5	48.79	22. Per Karlsson	-Standard	S	U	

Stage: 2. C1 -På innsian af Laghaborg.

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	3.4531	98	28.38	13. Henrik Lundh	-Standard	S	U	
2	72.80	87.3629	2.5140	81	32.22	4. Axel Forster	-Standard	S	U	
3	59.03	70.8401	2.0385	72	35.32	22. Per Karlsson	-Standard	S	U	

Stage: 3. D1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	2.8374	111	39.12	4. Axel Forster	-Standard	S	U	
2	97.80	156.4780	2.7750	137	49.37	22. Per Karlsson	-Standard	S	U	
3	73.10	116.9597	2.0742	80	38.57	13. Henrik Lundh	-Standard	S	U	

Stage: 4. B2 - Streiff

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	2.5028	22	8.79	13. Henrik Lundh	-Standard	S	U	
2	55.75	25.0877	1.3953	18	12.90	4. Axel Forster	-Standard	S	U	
3	16.83	7.5735	0.4212	5	11.87	22. Per Karlsson	-Standard	S	U	

Stage: 5. C2- På utsian af Laghaborg

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	60.0000	2.5783	42	16.29	4. Axel Forster	-Standard	S	U	
2	71.11	42.6672	1.8335	24	13.09	13. Henrik Lundh	-Standard	S	U	
3	66.27	39.7648	1.7087	44	25.75	22. Per Karlsson	-Standard	S	U	

Stage: 6. D2

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	2.8539	76	26.63	13. Henrik Lundh	-Standard	S	U	
2	93.17	111.8011	2.6589	110	41.37	22. Per Karlsson	-Standard	S	U	
3	69.34	83.2125	1.9790	83	41.94	4. Axel Forster	-Standard	S	U	

PRODUCTION Results per stage

Stage: 1. B1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	4.1513	45	10.84	12. Peter Huss	-Production	-	U	
2	86.18	38.7818	3.5777	41	11.46	1. Pär Hylander	-Production	S	U	hylander
3	71.01	31.9546	2.9478	39	13.23	7. Björn Sahlquist	-Production	-	U	
4	15.46	6.9583	0.6419	14	21.81	23. Magnus Jakobsson	-Production	-	U	
5	10.62	4.7783	0.4408	7	15.88	18. Josefin Spånér	-Production	L	U	
6	0.00	0.0000	0.0000	0	12.10	8. Mattias Löfving	-Production	S	U	
7	0.00	0.0000	0.0000	0	14.67	9. Tomas Hallin	-Production	-	U	

Stage: 2. C1 -På innsian af Laghaborg.

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	5.8242	112	19.23	1. Pär Hylander	-Production	S	U	hylander
2	59.71	71.6519	3.4776	98	28.18	12. Peter Huss	-Production	-	U	
3	57.44	68.9230	3.3452	94	28.10	9. Tomas Hallin	-Production	-	U	
4	41.00	49.2057	2.3882	94	39.36	18. Josefin Spånér	-Production	L	U	
5	39.85	47.8256	2.3212	62	26.71	7. Björn Sahlquist	-Production	-	U	
6	28.74	34.4892	1.6739	46	27.48	23. Magnus Jakobsson	-Production	-	U	
7	8.28	9.9337	0.4821	17	35.26	8. Mattias Löfving	-Production	S	U	

Stage: 3. D1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	6.3436	144	22.70	1. Pär Hylander	-Production	S	U	hylander
2	54.82	87.7170	3.4778	122	35.08	9. Tomas Hallin	-Production	-	U	
3	45.14	72.2188	2.8633	93	32.48	12. Peter Huss	-Production	-	U	
4	41.36	66.1728	2.6236	121	46.12	23. Magnus Jakobsson	-Production	-	U	
5	28.89	46.2233	1.8326	106	57.84	18. Josefin Spånér	-Production	L	U	
6	9.17	14.6789	0.5820	23	39.52	8. Mattias Löfving	-Production	S	U	
7	0.00	0.0000	0.0000	0	34.48	7. Björn Sahlquist	-Production	-	U	

Stage: 4. B2 - Streiff

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	5.4332	37	6.81	1. Pär Hylander	-Production	S	U	hylander
2	69.79	31.4060	3.7919	43	11.34	18. Josefin Spånér	-Production	L	U	
3	66.82	30.0682	3.6304	33	9.09	9. Tomas Hallin	-Production	-	U	
4	45.92	20.6630	2.4948	24	9.62	12. Peter Huss	-Production	-	U	
5	36.92	16.6147	2.0060	20	9.97	23. Magnus Jakobsson	-Production	-	U	
6	6.26	2.8152	0.3399	5	14.71	7. Björn Sahlquist	-Production	-	U	

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
7	0.00	0.0000	0.0000	0	8.67	8. Mattias Löfving	-Production	S	U	

Stage: 5. C2- På utsian af Laghaborg

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	60.0000	5.0633	52	10.27	1. Pär Hylander	-Production	S	U	hylander
2	67.08	40.2453	3.3962	54	15.90	7. Björn Sahlquist	-Production	-	U	
3	59.93	35.9565	3.0343	46	15.16	9. Tomas Hallin	-Production	-	U	
4	51.10	30.6608	2.5874	37	14.30	12. Peter Huss	-Production	-	U	
5	48.17	28.9024	2.4390	54	22.14	18. Josefin Spånér	-Production	L	U	
6	34.18	20.5096	1.7308	27	15.60	23. Magnus Jakobsson	-Production	-	U	
7	26.42	15.8507	1.3376	25	18.69	8. Mattias Löfving	-Production	S	U	

Stage: 6. D2

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	7.1577	103	14.39	1. Pär Hylander	-Production	S	U	hylander
2	65.76	78.9141	4.7071	94	19.97	9. Tomas Hallin	-Production	-	U	
3	38.86	46.6285	2.7813	110	39.55	18. Josefin Spånér	-Production	L	U	
4	37.17	44.6091	2.6608	67	25.18	23. Magnus Jakobsson	-Production	-	U	
5	36.27	43.5294	2.5964	70	26.96	7. Björn Sahlquist	-Production	-	U	
6	33.72	40.4597	2.4133	55	22.79	12. Peter Huss	-Production	-	U	
7	6.73	8.0768	0.4818	14	29.06	8. Mattias Löfving	-Production	S	U	

PRODUCTION OPTICS Results per stage

Stage: 1. B1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	3.6611	35	9.56	17. Hugo Rinaldo	-Production Optics	-	U	rinaldojr
2	68.39	30.7752	2.5038	33	13.18	16. Bengt Karlsson	-Production Optics	S	U	
3	39.82	17.9175	1.4577	25	17.15	19. John Woxius	-Production Optics	S	U	
4	38.80	17.4622	1.4207	18	12.67	6. Fredrik Engman	-Production Optics	S	U	
5	9.00	4.0508	0.3296	7	21.24	2. Michael Broström	-Production Optics	S	U	
6	0.00	0.0000	0.0000	0	15.60	21. Ida Rinaldo	-Production Optics	L	U	

Stage: 2. C1 -På innsian af Laghaborg.

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	6.8919	102	14.80	17. Hugo Rinaldo	-Production Optics	-	U	rinaldojr
2	55.64	66.7686	3.8347	90	23.47	16. Bengt Karlsson	-Production Optics	S	U	
3	49.74	59.6885	3.4281	76	22.17	21. Ida Rinaldo	-Production Optics	L	U	
4	46.00	55.2039	3.1705	98	30.91	2. Michael Broström	-Production Optics	S	U	
5	40.52	48.6233	2.7926	63	22.56	6. Fredrik Engman	-Production Optics	S	U	
6	35.10	42.1218	2.4192	98	40.51	19. John Woxius	-Production Optics	S	U	

Stage: 3. D1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	6.0866	142	23.33	17. Hugo Rinaldo	-Production Optics	-	U	rinaldojr
2	84.58	135.3259	5.1480	127	24.67	21. Ida Rinaldo	-Production Optics	L	U	
3	80.55	128.8787	4.9027	131	26.72	6. Fredrik Engman	-Production Optics	S	U	
4	61.99	99.1829	3.7730	129	34.19	16. Bengt Karlsson	-Production Optics	S	U	
5	52.32	83.7137	3.1846	137	43.02	2. Michael Broström	-Production Optics	S	U	
6	0.00	0.0000	0.0000	0	63.59	19. John Woxius	-Production Optics	S	U	

Stage: 4. B2 - Streiff

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	6.0359	37	6.13	17. Hugo Rinaldo	-Production Optics	-	U	rinaldojr
2	86.53	38.9391	5.2229	41	7.85	21. Ida Rinaldo	-Production Optics	L	U	
3	74.57	33.5584	4.5012	37	8.22	16. Bengt Karlsson	-Production Optics	S	U	
4	59.99	26.9973	3.6212	26	7.18	6. Fredrik Engman	-Production Optics	S	U	
5	46.20	20.7891	2.7885	29	10.40	19. John Woxius	-Production Optics	S	U	
6	45.85	20.6313	2.7673	22	7.95	2. Michael Broström	-Production Optics	S	U	

Stage: 5. C2- På utsian af Laghaborg

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	60.0000	5.9406	48	8.08	17. Hugo Rinaldo	-Production Optics	-	U	rinaldojr
2	83.66	50.1971	4.9700	58	11.67	16. Bengt Karlsson	-Production Optics	S	U	
3	83.52	50.1112	4.9615	58	11.69	21. Ida Rinaldo	-Production Optics	L	U	
4	63.89	38.3333	3.7954	46	12.12	6. Fredrik Engman	-Production Optics	S	U	
5	58.96	35.3744	3.5024	58	16.56	2. Michael Broström	-Production Optics	S	U	
6	35.99	21.5954	2.1382	52	24.32	19. John Woxius	-Production Optics	S	U	

Stage: 6. D2

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	6.8331	104	15.22	21. Ida Rinaldo	-Production Optics	L	U	
2	99.58	119.5016	6.8047	92	13.52	17. Hugo Rinaldo	-Production Optics	-	U	rinaldojr
3	83.27	99.9207	5.6897	106	18.63	6. Fredrik Engman	-Production Optics	S	U	
4	55.55	66.6630	3.7960	96	25.29	16. Bengt Karlsson	-Production Optics	S	U	
5	48.50	58.1974	3.3139	91	27.46	2. Michael Broström	-Production Optics	S	U	
6	29.99	35.9911	2.0494	68	33.18	19. John Woxius	-Production Optics	S	U	

PISTOL CALIBER CARBINE OPTICS Results per stage

Stage: 1. B1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	13.6364	39	2.86	5. Albin Hylander	-Pistol Caliber Carbine	Optics	U	hylanderjunior
2	69.61	31.3245	9.4923	43	4.53	14. Dan Mårtensson	-Pistol Caliber Carbine	Optics	U	dmartensson
3	67.24	30.2559	9.1684	43	4.69	15. Victor Mårtensson	-Pistol Caliber Carbine	Optics	U	timewaster
4	9.05	4.0741	1.2346	5	4.05	25. Lorenz Neumann	-Pistol Caliber Carbine	Optics	U	lollo
5	2.59	1.1669	0.3536	15	42.42	27. Fredrik Robertsson	-Pistol Caliber Carbine	Optics	U	

Stage: 2. C1 -På innsian af Laghaborg.

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	7.3406	114	15.53	5. Albin Hylander	-Pistol Caliber Carbine	Optics	U	hylanderjunior
2	97.06	116.4750	7.1250	114	16.00	15. Victor Mårtensson	-Pistol Caliber Carbine	Optics	U	timewaster
3	80.00	96.0041	5.8728	108	18.39	14. Dan Mårtensson	-Pistol Caliber Carbine	Optics	U	dmartensson
4	52.49	62.9913	3.8533	83	21.54	27. Fredrik Robertsson	-Pistol Caliber Carbine	Optics	U	
5	27.70	33.2376	2.0332	60	29.51	25. Lorenz Neumann	-Pistol Caliber Carbine	Optics	U	lollo

Stage: 3. D1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	8.0000	148	18.50	15. Victor Mårtensson	-Pistol Caliber Carbine	Optics	U	timewaster
2	88.69	141.8984	7.0949	148	20.86	5. Albin Hylander	-Pistol Caliber Carbine	Optics	U	hylanderjunior
3	57.14	91.4286	4.5714	112	24.50	14. Dan Mårtensson	-Pistol Caliber Carbine	Optics	U	dmartensson
4	49.41	79.0488	3.9524	123	31.12	25. Lorenz Neumann	-Pistol Caliber Carbine	Optics	U	lollo
5	34.23	54.7674	2.7384	83	30.31	27. Fredrik Robertsson	-Pistol Caliber Carbine	Optics	U	

Stage: 4. B2 - Streiff

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	8.5595	41	4.79	5. Albin Hylander	-Pistol Caliber Carbine	Optics	U	hylanderjunior
2	99.87	44.9433	8.5487	43	5.03	15. Victor Mårtensson	-Pistol Caliber Carbine	Optics	U	timewaster
3	69.67	31.3510	5.9633	39	6.54	14. Dan Mårtensson	-Pistol Caliber Carbine	Optics	U	dmartensson
4	67.85	30.5312	5.8074	41	7.06	27. Fredrik Robertsson	-Pistol Caliber Carbine	Optics	U	
5	53.10	23.8969	4.5455	31	6.82	25. Lorenz Neumann	-Pistol Caliber Carbine	Optics	U	lollo

Stage: 5. C2- På utsian af Laghaborg

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	60.0000	6.4198	52	8.10	5. Albin Hylander	-Pistol Caliber Carbine	Optics	U	hylanderjunior
2	85.05	51.0306	5.4601	54	9.89	15. Victor Mårtensson	-Pistol Caliber Carbine	Optics	U	timewaster
3	74.31	44.5872	4.7706	52	10.90	14. Dan Mårtensson	-Pistol Caliber Carbine	Optics	U	dmartensson

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS	
4	59.11	35.4668	3.7948	54	14.23	27. Fredrik Robertsson	-Pistol	Caliber Carbine	Optics	U	
5	53.76	32.2566	3.4513	39	11.30	25. Lorenz Neumann	-Pistol	Caliber Carbine	Optics	U	lollo

Stage: 6. D2

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS	
1	100.00	120.0000	9.1054	114	12.52	5. Albin Hylander	-Pistol	Caliber Carbine	Optics	U	hylanderjunior
2	99.02	118.8266	9.0164	110	12.20	15. Victor Mårtensson	-Pistol	Caliber Carbine	Optics	U	timewaster
3	69.69	83.6284	6.3456	112	17.65	14. Dan Mårtensson	-Pistol	Caliber Carbine	Optics	U	dmartensson
4	63.28	75.9341	5.7618	104	18.05	27. Fredrik Robertsson	-Pistol	Caliber Carbine	Optics	U	
5	44.30	53.1617	4.0338	62	15.37	25. Lorenz Neumann	-Pistol	Caliber Carbine	Optics	U	lollo

OPTICS Results per stage

Stage: 1. B1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	0.7469	9	12.05	24. Björn Mattsson	-Optics	-	U	mattssons

Stage: 2. C1 -På innsian af Laghaborg.

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	4.0552	94	23.18	24. Björn Mattsson	-Optics	-	U	mattssons

Stage: 3. D1

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	5.0426	148	29.35	24. Björn Mattsson	-Optics	-	U	mattssons

Stage: 4. B2 - Streiff

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	3.7275	29	7.78	24. Björn Mattsson	-Optics	-	U	mattssons

Stage: 5. C2- På utsian af Laghaborg

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	60.0000	4.4226	54	12.21	24. Björn Mattsson	-Optics	-	U	mattssons

Stage: 6. D2

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	5.4628	108	19.77	24. Björn Mattsson	-Optics	-	U	mattssons