

**Final Results per stage and division  
Golden City Midweek Shoot 21/09/22  
2022-09-21**

# OPEN Results per stage

## Stage: 1. Ultimate Solar

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	100.0000	7.8244	82	10.48	9. Naushaad Cassim	+Open	-	B	
2	92.86	92.8582	7.2656	93	12.80	12. Rahul Dullabh	+Open	-	B	
3	73.66	73.6606	5.7635	97	16.83	13. Neelesh Dullabh	+Open	S	B	
4	47.80	47.7969	3.7398	92	24.60	32. Bardev Rowjee	-Open	SS	C	
5	46.49	46.4868	3.6373	69	18.97	29. cHris Marais	+Open	SS	B	
6	31.23	31.2263	2.4433	98	40.11	30. Gideon Joubert	+Open	SS	U	
7	23.88	23.8786	1.8684	44	23.55	21. Shuaib Areff	+Open	SS	U	

## Stage: 2. Spartan Arms

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	4.3203	41	9.49	12. Rahul Dullabh	+Open	-	B	
2	97.90	44.0550	4.2296	42	9.93	9. Naushaad Cassim	+Open	-	B	
3	90.21	40.5932	3.8973	44	11.29	13. Neelesh Dullabh	+Open	S	B	
4	70.00	31.4996	3.0242	45	14.88	29. cHris Marais	+Open	SS	B	
5	63.31	28.4890	2.7352	41	14.99	21. Shuaib Areff	+Open	SS	U	
6	46.36	20.8622	2.0029	41	20.47	32. Bardev Rowjee	-Open	SS	C	
7	19.59	8.8163	0.8464	28	33.08	30. Gideon Joubert	+Open	SS	U	

## Stage: 3. Zinia Internet

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	6.4307	149	23.17	13. Neelesh Dullabh	+Open	S	B	
2	96.69	154.7032	6.2178	145	23.32	9. Naushaad Cassim	+Open	-	B	
3	90.68	145.0959	5.8317	149	25.55	29. cHris Marais	+Open	SS	B	
4	78.19	125.1037	5.0282	116	23.07	12. Rahul Dullabh	+Open	-	B	
5	66.74	106.7834	4.2918	140	32.62	32. Bardev Rowjee	-Open	SS	C	
6	66.26	106.0127	4.2609	147	34.50	21. Shuaib Areff	+Open	SS	U	
7	45.39	72.6160	2.9186	152	52.08	30. Gideon Joubert	+Open	SS	U	

## Stage: 4. Golden City

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	7.6230	93	12.20	9. Naushaad Cassim	+Open	-	B	
2	97.32	116.7872	7.4189	96	12.94	12. Rahul Dullabh	+Open	-	B	
3	91.33	109.5958	6.9620	110	15.80	13. Neelesh Dullabh	+Open	S	B	
4	67.47	80.9633	5.1432	97	18.86	21. Shuaib Areff	+Open	SS	U	
5	65.09	78.1088	4.9618	104	20.96	32. Bardev Rowjee	-Open	SS	C	
6	64.45	77.3401	4.9130	96	19.54	29. cHris Marais	+Open	SS	B	

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
7	36.54	43.8451	2.7852	114	40.93	30. Gideon Joubert	+Open	SS	U	

## Stage: 5. AD Tactical

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	9.7431	110	11.29	9. Naushaad Cassim	+Open	-	B	
2	90.58	108.7016	8.8258	115	13.03	13. Neelesh Dullabh	+Open	S	B	
3	62.20	74.6446	6.0606	116	19.14	32. Bardev Rowjee	-Open	SS	C	
4	61.25	73.5019	5.9678	115	19.27	29. cHris Marais	+Open	SS	B	
5	50.25	60.2961	4.8956	68	13.89	12. Rahul Dullabh	+Open	-	B	
6	50.10	60.1156	4.8810	82	16.80	21. Shuaib Areff	+Open	SS	U	
7	31.11	37.3322	3.0311	114	37.61	30. Gideon Joubert	+Open	SS	U	

## Stage: 6. Combination Coatings

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	40.0000	7.6110	36	4.73	9. Naushaad Cassim	+Open	-	B	
2	96.68	38.6730	7.3585	39	5.30	13. Neelesh Dullabh	+Open	S	B	
3	80.03	32.0135	6.0914	36	5.91	12. Rahul Dullabh	+Open	-	B	
4	45.55	18.2218	3.4672	38	10.96	21. Shuaib Areff	+Open	SS	U	
5	33.06	13.2259	2.5166	19	7.55	32. Bardev Rowjee	-Open	SS	C	
6	24.37	9.7464	1.8545	13	7.01	29. cHris Marais	+Open	SS	B	
7	7.21	2.8854	0.5490	7	12.75	30. Gideon Joubert	+Open	SS	U	

# STANDARD Results per stage

## Stage: 1. Ultimate Solar

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	100.0000	5.4878	81	14.76	7. Andy Charalambous	+Standard	SS	U	
2	94.66	94.6609	5.1948	80	15.40	35. Glen Kruger	-Standard	-	U	
3	91.49	91.4871	5.0206	73	14.54	27. Mohammed Hassen	-Standard	-	U	
4	59.07	59.0690	3.2416	53	16.35	16. Moosa Mangera	+Standard	-	B	
5	59.03	59.0255	3.2392	78	24.08	34. Bashier Bhayat	-Standard	-	C	
6	57.30	57.3026	3.1447	55	17.49	8. Christopher Hanscombe	-Standard	-	U	
7	55.01	55.0133	3.0190	73	24.18	18. Bernadette Remacle	+Standard	L	U	

## Stage: 2. Spartan Arms

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	3.3279	41	12.32	27. Mohammed Hassen	-Standard	-	U	
2	94.13	42.3606	3.1327	38	12.13	7. Andy Charalambous	+Standard	SS	U	
3	92.82	41.7704	3.0891	43	13.92	16. Moosa Mangera	+Standard	-	B	
4	78.63	35.3828	2.6167	37	14.14	35. Glen Kruger	-Standard	-	U	
5	63.60	28.6179	2.1164	28	13.23	34. Bashier Bhayat	-Standard	-	C	
6	60.75	27.3383	2.0218	26	12.86	8. Christopher Hanscombe	-Standard	-	U	
7	56.72	25.5249	1.8877	41	21.72	18. Bernadette Remacle	+Standard	L	U	

## Stage: 3. Zinia Internet

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	6.3264	150	23.71	8. Christopher Hanscombe	-Standard	-	U	
2	92.13	147.4097	5.8286	134	22.99	7. Andy Charalambous	+Standard	SS	U	
3	85.52	136.8304	5.4103	149	27.54	16. Moosa Mangera	+Standard	-	B	
4	77.61	124.1796	4.9101	142	28.92	35. Glen Kruger	-Standard	-	U	
5	74.30	118.8796	4.7005	124	26.38	27. Mohammed Hassen	-Standard	-	U	
6	53.94	86.3008	3.4124	95	27.84	34. Bashier Bhayat	-Standard	-	C	
7	51.23	81.9605	3.2407	98	30.24	18. Bernadette Remacle	+Standard	L	U	

## Stage: 4. Golden City

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	6.3990	102	15.94	8. Christopher Hanscombe	-Standard	-	U	
2	91.14	109.3732	5.8323	96	16.46	27. Mohammed Hassen	-Standard	-	U	
3	86.51	103.8149	5.5359	94	16.98	35. Glen Kruger	-Standard	-	U	
4	79.98	95.9721	5.1177	100	19.54	16. Moosa Mangera	+Standard	-	B	
5	76.00	91.2028	4.8634	89	18.30	7. Andy Charalambous	+Standard	SS	U	
6	68.78	82.5313	4.4010	90	20.45	34. Bashier Bhayat	-Standard	-	C	

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
7	61.13	73.3611	3.9120	80	20.45	18. Bernadette Remacle	+Standard	L	U	

## Stage: 5. AD Tactical

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	7.5342	110	14.60	35. Glen Kruger	-Standard	-	U	
2	95.38	114.4591	7.1864	118	16.42	27. Mohammed Hassen	-Standard	-	U	
3	82.57	99.0781	6.2207	106	17.04	7. Andy Charalambous	+Standard	SS	U	
4	79.38	95.2522	5.9804	104	17.39	8. Christopher Hanscombe	-Standard	-	U	
5	78.41	94.0961	5.9079	109	18.45	16. Moosa Mangera	+Standard	-	B	
6	65.24	78.2931	4.9157	102	20.75	34. Bashier Bhayat	-Standard	-	C	
7	62.38	74.8582	4.7000	94	20.00	18. Bernadette Remacle	+Standard	L	U	

## Stage: 6. Combination Coatings

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	40.0000	5.7971	32	5.52	27. Mohammed Hassen	-Standard	-	U	
2	79.90	31.9619	4.6322	34	7.34	34. Bashier Bhayat	-Standard	-	C	
3	66.74	26.6964	3.8690	26	6.72	35. Glen Kruger	-Standard	-	U	
4	62.78	25.1127	3.6395	21	5.77	16. Moosa Mangera	+Standard	-	B	
5	58.53	23.4107	3.3929	38	11.20	7. Andy Charalambous	+Standard	SS	U	
6	15.63	6.2538	0.9063	6	6.62	8. Christopher Hanscombe	-Standard	-	U	
7	11.38	4.5523	0.6598	7	10.61	18. Bernadette Remacle	+Standard	L	U	

# PRODUCTION Results per stage

## Stage: 1. Ultimate Solar

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	100.0000	6.6215	88	13.29	6. Davey Gate	-Production	-	U	gamer
2	90.72	90.7167	6.0068	88	14.65	10. Lehan Potgieter	-Production	SJ	U	minicane
3	44.57	44.5674	2.9510	44	14.91	24. Wayne Hammond	-Production	SS	A	rogue

## Stage: 2. Spartan Arms

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	3.3006	37	11.21	10. Lehan Potgieter	-Production	SJ	U	minicane
2	89.82	40.4194	2.9647	26	8.77	6. Davey Gate	-Production	-	U	gamer
3	77.42	34.8393	2.5554	30	11.74	24. Wayne Hammond	-Production	SS	A	rogue

## Stage: 3. Zinia Internet

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	6.5983	148	22.43	10. Lehan Potgieter	-Production	SJ	U	minicane
2	88.99	142.3774	5.8716	128	21.80	6. Davey Gate	-Production	-	U	gamer
3	78.62	125.7950	5.1877	152	29.30	24. Wayne Hammond	-Production	SS	A	rogue
4	36.78	58.8486	2.4269	78	32.14	17. Shyam Jagwanth	-Production	S	C	

## Stage: 4. Golden City

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	6.9599	106	15.23	6. Davey Gate	-Production	-	U	gamer
2	97.33	116.7909	6.7738	118	17.42	24. Wayne Hammond	-Production	SS	A	rogue
3	89.26	107.1116	6.2124	93	14.97	10. Lehan Potgieter	-Production	SJ	U	minicane

## Stage: 5. AD Tactical

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	8.5938	110	12.80	6. Davey Gate	-Production	-	U	gamer
2	90.59	108.7049	7.7849	110	14.13	10. Lehan Potgieter	-Production	SJ	U	minicane
3	78.71	94.4553	6.7644	120	17.74	24. Wayne Hammond	-Production	SS	A	rogue
4	50.62	60.7418	4.3500	87	20.00	17. Shyam Jagwanth	-Production	S	C	

## Stage: 6. Combination Coatings

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	40.0000	5.5300	36	6.51	10. Lehan Potgieter	-Production	SJ	U	minicane
2	48.50	19.3997	2.6820	21	7.83	24. Wayne Hammond	-Production	SS	A	rogue
3	38.12	15.2481	2.1080	16	7.59	6. Davey Gate	-Production	-	U	gamer

# CLASSIC Results per stage

## Stage: 1. Ultimate Solar

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	100.0000	5.0381	86	17.07	11. Herman Potgieter	-Classic	S	U	harrycane

## Stage: 2. Spartan Arms

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	3.4367	41	11.93	11. Herman Potgieter	-Classic	S	U	harrycane

## Stage: 3. Zinia Internet

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	6.0799	134	22.04	11. Herman Potgieter	-Classic	S	U	harrycane

## Stage: 4. Golden City

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	5.6906	110	19.33	11. Herman Potgieter	-Classic	S	U	harrycane

## Stage: 5. AD Tactical

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	6.9825	112	16.04	11. Herman Potgieter	-Classic	S	U	harrycane

## Stage: 6. Combination Coatings

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	40.0000	3.5235	21	5.96	11. Herman Potgieter	-Classic	S	U	harrycane

# PISTOL CALIBER CARBINE Results per stage

## Stage: 1. Ultimate Solar

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	100.0000	6.5455	90	13.75	1. Deon Potgieter	-Pistol Caliber Carbine -		U	

## Stage: 2. Spartan Arms

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	3.2312	39	12.07	1. Deon Potgieter	-Pistol Caliber Carbine -		U	

## Stage: 3. Zinia Internet

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	6.7242	148	22.01	1. Deon Potgieter	-Pistol Caliber Carbine -		U	

## Stage: 4. Golden City

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	5.7095	68	11.91	1. Deon Potgieter	-Pistol Caliber Carbine -		U	

## Stage: 5. AD Tactical

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	8.7930	110	12.51	1. Deon Potgieter	-Pistol Caliber Carbine -		U	

## Stage: 6. Combination Coatings

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	40.0000	6.5934	36	5.46	1. Deon Potgieter	-Pistol Caliber Carbine -		U	



# PRODUCTION OPTICS Results per stage

## Stage: 1. Ultimate Solar

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	100.0000	8.0335	96	11.95	3. Neil Taylor	-Production Optics	S	A	
2	71.21	71.2082	5.7205	79	13.81	20. Deveash Jivan	-Production Optics	-	U	
3	63.77	63.7718	5.1231	77	15.03	26. Wyn Robertson	-Production Optics	S	U	win
4	48.45	48.4480	3.8921	75	19.27	28. Coert Erasmus	-Production Optics	SS	U	
5	45.99	45.9859	3.6943	58	15.70	31. Marchant Cilliers	-Production Optics	-	A	
6	44.17	44.1700	3.5484	55	15.50	4. Warren Bonheim	-Production Optics	-	U	

## Stage: 2. Spartan Arms

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	45.0000	4.4074	45	10.21	3. Neil Taylor	-Production Optics	S	A	
2	97.46	43.8591	4.2957	43	10.01	26. Wyn Robertson	-Production Optics	S	U	win
3	94.72	42.6243	4.1748	43	10.30	4. Warren Bonheim	-Production Optics	-	U	
4	80.54	36.2433	3.5498	41	11.55	31. Marchant Cilliers	-Production Optics	-	A	
5	64.53	29.0376	2.8440	31	10.90	20. Deveash Jivan	-Production Optics	-	U	
6	5.38	2.4213	0.2372	3	12.65	28. Coert Erasmus	-Production Optics	SS	U	

## Stage: 3. Zinia Internet

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	160.0000	7.0061	150	21.41	31. Marchant Cilliers	-Production Optics	-	A	
2	97.27	155.6383	6.8151	150	22.01	3. Neil Taylor	-Production Optics	S	A	
3	95.20	152.3148	6.6696	154	23.09	4. Warren Bonheim	-Production Optics	-	U	
4	87.18	139.4894	6.1080	129	21.12	26. Wyn Robertson	-Production Optics	S	U	win
5	66.41	106.2518	4.6525	156	33.53	28. Coert Erasmus	-Production Optics	SS	U	
6	64.68	103.4839	4.5313	146	32.22	20. Deveash Jivan	-Production Optics	-	U	

## Stage: 4. Golden City

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	8.8146	116	13.16	3. Neil Taylor	-Production Optics	S	A	
2	80.41	96.4895	7.0876	110	15.52	26. Wyn Robertson	-Production Optics	S	U	win
3	76.84	92.2117	6.7734	110	16.24	31. Marchant Cilliers	-Production Optics	-	A	
4	75.50	90.5968	6.6548	112	16.83	4. Warren Bonheim	-Production Optics	-	U	
5	69.85	83.8250	6.1574	108	17.54	20. Deveash Jivan	-Production Optics	-	U	
6	38.02	45.6273	3.3515	92	27.45	28. Coert Erasmus	-Production Optics	SS	U	

## Stage: 5. AD Tactical

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	120.0000	9.1879	112	12.19	3. Neil Taylor	-Production Optics	S	A	
2	91.11	109.3274	8.3707	112	13.38	31. Marchant Cilliers	-Production Optics	-	A	
3	75.15	90.1793	6.9046	118	17.09	20. Deveash Jivan	-Production Optics	-	U	
4	68.54	82.2482	6.2974	108	17.15	26. Wyn Robertson	-Production Optics	S	U	win
5	62.98	75.5798	5.7868	114	19.70	4. Warren Bonheim	-Production Optics	-	U	
6	62.53	75.0372	5.7453	106	18.45	15. Darryl Jay Claassen	-Production Optics	-	U	darryl
7	59.07	70.8858	5.4274	120	22.11	28. Coert Erasmus	-Production Optics	SS	U	

## Stage: 6. Combination Coatings

#.	STAGE PERCENT	STAGE POINTS	HIT FACTOR	POINTS	TIME (sec)	COMPETITOR #. Name	DIV	CAT	CLS	ICS
1	100.00	40.0000	7.4510	38	5.10	3. Neil Taylor	-Production Optics	S	A	
2	96.55	38.6217	7.1942	40	5.56	31. Marchant Cilliers	-Production Optics	-	A	
3	69.29	27.7174	5.1630	38	7.36	4. Warren Bonheim	-Production Optics	-	U	
4	64.48	25.7901	4.8040	38	7.91	20. Deveash Jivan	-Production Optics	-	U	
5	57.68	23.0734	4.2980	30	6.98	26. Wyn Robertson	-Production Optics	S	U	win
6	52.83	21.1303	3.9360	32	8.13	28. Coert Erasmus	-Production Optics	SS	U	