a	b	c	d	e
Data Set	Input1_InterferenceFilterSpectra			
Cone sensitivitie	161121_Hmelpomene_male_averaged_sensitivities_rhodopsin_JB.csv			
Ocular Media	Disregarded			
Irradiance Spect	Daylight			
Von Kreis Transf	TRUE			
Von Kreis Denor	0.2025732	0.733138	0.9291614	

	700 nm	690 nm	680 nm	671 nm	660 nm	650 nm	640 nm	632 nm	620 nm
700 nm	0	36.00954	55.07022	76.63683	88.15332	104.08047	114.41348	120.71644	121.15808
690 nm	36.00954	0	19.96628	42.81911	55.81416	73.77442	85.80774	94.06322	96.66265
680 nm	55.07022	19.96628	0	23.41853	37.25448	56.47806	69.55477	78.97539	82.84908
671 nm	76.63683	42.81911	23.41853	0	14.60695	35.19383	49.48875	60.31384	65.74536
660 nm	88.15332	55.81416	37.25448	14.60695	0	21.35261	36.45002	48.21024	54.68742
650 nm	104.08047	73.77442	56.47806	35.19383	21.35261	0	16.03321	29.14712	37.18801
640 nm	114.41348	85.80774	69.55477	49.48875	36.45002	16.03321	0	13.97811	23.21836
632 nm	120.71644	94.06322	78.97539	60.31384	48.21024	29.14712	13.97811	0	10.14279
620 nm	121.15808	96.66265	82.84908	65.74536	54.68742	37.18801	23.21836	10.14279	0
610 nm	122.36947	100.35846	87.97851	72.64568	62.76434	47.08929	34.55351	22.77444	13.40902
600 nm	117.06691	97.59366	86.65391	73.10958	64.40473	50.60389	39.56942	29.20312	20.98483
589 nm	109.39309	92.73787	83.39705	71.8452	64.46038	52.7769	43.43229	34.63875	27.71444
580 nm	100.92705	86.04698	77.71181	67.41441	60.86224	50.52365	42.26245	34.48333	28.39859
570 nm	89.34722	77.17744	70.38263	62.01388	56.75948	48.53307	41.97767	35.79477	31.04826
560 nm	72.66287	63.4001	58.2686	51.98682	48.16121	42.27623	37.6358	33.26233	30.06304
550 nm	55.55355	48.9748	45.39705	41.08069	38.64958	35.08077	32.3424	29.75891	28.12039
540 nm	36.68763	32.5215	30.30529	27.71032	26.50128	25.14083	24.4189	23.86593	24.09997
532 nm	27.50368	24.29563	22.51853	20.48662	19.63469	19.26221	19.67086	20.33079	21.71615
520 nm	23.0592	19.46695	16.50392	12.52224	8.561	5.34002	8.01368	11.86219	16.09851
510 nm	39.45703	33.93934	29.48416	23.46237	17.16279	7.41031	0.86731	6.31058	12.30713
500 nm	51.86346	45.05506	39.67588	32.45425	25.08597	13.87331	6.28896	5.38144	11.14835
492 nm	70.62925	61.91016	55.16702	46.17084	37.19915	23.58652	13.97286	8.12584	10.19822
480 nm	93.9849	83.16629	74.95666	64.02534	53.24457	36.58466	24.1925	14.50493	10.6129
470 nm	102.39927	91.38389	83.21123	72.33375	61.66202	44.52704	30.94004	19.20885	11.51927
460 nm	96.52865	86.8139	79.82415	70.57459	61.64876	46.68114	33.8412	21.69332	12.01146
450 nm	76.49231	69.45888	64.67229	58.49304	52.92947	43.29612	33.96064	23.3568	11.82552
440 nm	55.91298	51.03892	47.85213	43.84474	40.53748	35.0333	29.53789	22.36218	11.57954
430 nm	27.42355	25.13526	23.68059	21.89517	20.5513	18.54001	16.76952	14.62469	10.74291
420 nm	7.52732	6.93646	6.53518	6.05065	5.67178	5.15888	4.74596	4.31674	3.79674
410 nm	19.3055	17.81653	16.76233	15.48369	14.4277	12.9528	11.66611	10.17504	8.27459
400 nm	26.05724	24.03081	22.58113	20.81279	19.32035	17.17814	15.27194	13.10651	10.68678
390 nm	31.51605	29.06073	27.17308	24.863	22.76812	19.75459	17.10318	14.30785	11.69766
380 nm	36.1869	33.27241	30.88377	27.95999	25.15523	21.17535	17.82907	14.58434	11.88796
370 nm	39.20807	35.92258	33.15478	29.77531	26.45591	21.81473	18.0491	14.56357	11.80697
360 nm	40.44408	36.85523	33.68626	29.84	25.91545	20.547	16.32069	12.51292	9.53121
350 nm	42.88026	38.68902	34.87055	30.27813	25.44148	18.95111	13.93901	9.36278	5.34564
340 nm	48.24287	43.12873	38.57192	33.14669	27.49491	20.05815	14.51527	9.59138	5.3098
330 nm	62.56261	55.39424	49.51151	42.6443	35.98247	27.60042	21.91706	17.45166	14.36611
320 nm	80.90859	71.21608	63.83834	55.389	47.76575	38.43687	32.39828	27.78109	24.64628
310 nm	141.83158	123.17944	110.79421	97.27543	86.57495	73.7887	65.6378	59.18697	54.54028
300 nm	129.61639	116.49643	107.3895	96.2504	87.4403	75.65199	67.59289	61.01488	56.287

	610 nm	600 nm	589 nm	580 nm	570 nm	560 nm	550 nm	540 nm	532 nm	520 nm
700 nm	122.36947	117.06691	109.39309	100.92705	89.34722	72.66287	55.55355	36.68763	27.50368	23.0592
690 nm	100.35846	97.59366	92.73787	86.04698	77.17744	63.4001	48.9748	32.5215	24.29563	19.46695
680 nm	87.97851	86.65391	83.39705	77.71181	70.38263	58.2686	45.39705	30.30529	22.51853	16.50392
671 nm	72.64568	73.10958	71.8452	67.41441	62.01388	51.98682	41.08069	27.71032	20.48662	12.52224
660 nm	62.76434	64.40473	64.46038	60.86224	56.75948	48.16121	38.64958	26.50128	19.63469	8.561
650 nm	47.08929	50.60389	52.7769	50.52365	48.53307	42.27623	35.08077	25.14083	19.26221	5.34002
640 nm	34.55351	39.56942	43.43229	42.26245	41.97767	37.6358	32.3424	24.4189	19.67086	8.01368
632 nm	22.77444	29.20312	34.63875	34.48333	35.79477	33.26233	29.75891	23.86593	20.33079	11.86219
620 nm	13.40902	20.98483	27.71444	28.39859	31.04826	30.06304	28.12039	24.09997	21.71615	16.09851
610 nm	0	8.82607	17.25366	19.07805	23.48915	24.46766	24.37735	22.45504	21.26727	18.2226
600 nm	8.82607	0	9.23971	11.81586	17.37518	19.621	20.6508	19.96095	19.43412	17.70772
589 nm	17.25366	9.23971	0	3.21378	9.93546	13.64764	15.99343	16.70243	16.91129	16.60758
580 nm	19.07805	11.81586	3.21378	0	6.89048	11.05147	13.81716	14.97243	15.40457	15.51802
570 nm	23.48915	17.37518	9.93546	6.89048	0	4.97428	8.67013	10.84193	11.77793	12.80131
560 nm	24.46766	19.621	13.64764	11.05147	4.97428	0	4.08057	6.88304	8.13589	9.72884
550 nm	24.37735	20.6508	15.99343	13.81716	8.67013	4.08057	0	3.2397	4.75577	6.88641
540 nm	22.45504	19.96095	16.70243	14.97243	10.84193	6.88304	3.2397	0	1.537	3.75381
532 nm	21.26727	19.43412	16.91129	15.40457	11.77793	8.13589	4.75577	1.537	0	2.26056
520 nm	18.2226	17.70772	16.60758	15.51802	12.80131	9.72884	6.88641	3.75381	2.26056	0
510 nm	15.90291	16.13517	15.81612	14.95818	12.71201	9.92761	7.37509	4.3188	2.89122	0.7659
500 nm	15.40268	16.04017	16.17303	15.45049	13.46651	10.82411	8.4213	5.31387	3.86435	1.70049
492 nm	14.5224	15.53709	16.13568	15.56736	13.87622	11.40258	9.17601	6.06063	4.63211	2.56796
480 nm	13.4241	14.69053	15.76023	15.37514	14.03953	11.79177	9.79839	6.7413	5.39685	3.63638
470 nm	12.26719	13.60108	14.98919	14.73991	13.68465	11.63405	9.84176	6.90292	5.68305	4.32069
460 nm	11.13199	12.5128	14.13711	13.98201	13.13204	11.2432	9.61191	6.80063	5.69911	4.69361
450 nm	7.96292	9.72423	11.99417	12.00929	11.52036	9.89913	8.53107	5.9112	5.02285	4.68975
440 nm	3.36766	6.45425	9.78138	9.9513	9.75833	8.34598	7.16543	4.54737	3.8198	4.23976
430 nm	3.7069	5.19106	7.42051	7.41487	7.04065	6.064	5.1627	2.75541	1.96441	3.14528
420 nm	2.49221	2.59026	2.7188	2.6119	2.34549	2.05099	1.7782	1.37447	0.99146	1.12426
410 nm	6.39746	5.94693	5.77772	5.61207	5.14657	4.5491	3.97355	2.73045	1.50956	2.53436
400 nm	8.68264	8.03772	7.5837	7.34259	6.69169	5.93257	5.1652	3.73481	2.63267	3.14294
390 nm	9.8142	9.07925	8.42908	8.14219	7.38875	6.59109	5.78012	4.5547	3.70252	3.46885
380 nm	10.07758	9.32853	8.62792	8.33176	7.55993	6.77156	5.97507	4.88032	4.1522	3.65436
370 nm	10.02273	9.28164	8.58407	8.29159	7.53067	6.75809	5.98174	4.94608	4.27272	3.72777
360 nm	7.81481	7.22742	6.75181	6.53801	5.97742	5.36346	4.7701	4.00031	3.56001	3.21985
350 nm	3.0866	2.78004	2.96545	2.9425	2.84583	2.46758	2.14379	1.60954	1.46642	1.46093
340 nm	2.86948	2.56316	2.8348	2.83203	2.77897	2.39786	2.07447	1.49243	1.35594	1.38801
330 nm	12.39288	11.48952	10.59208	10.22779	9.28931	8.35132	7.39408	6.10103	5.26758	4.56774
320 nm	21.97369	20.37933	18.57317	17.84182	15.9939	14.17827	12.14845	9.31143	7.42676	5.79464
310 nm	49.07793	45.00991	40.01771	37.68517	32.33026	26.6356	20.31487	13.02278	9.29245	6.80563
300 nm	50.54535	46.33467	40.93097	38.30363	32.00472	25.33968	18.28534	11.22412	7.7017	3.41035

	510 nm	500 nm	492 nm	480 nm	470 nm	460 nm	450 nm	440 nm	430 nm	420 nm	410 nm
700 nm	39.45703	51.86346	70.62925	93.9849	102.39927	96.52865	76.49231	55.91298	27.42355	7.52732	19.3055
690 nm	33.93934	45.05506	61.91016	83.16629	91.38389	86.8139	69.45888	51.03892	25.13526	6.93646	17.81653
680 nm	29.48416	39.67588	55.16702	74.95666	83.21123	79.82415	64.67229	47.85213	23.68059	6.53518	16.76233
671 nm	23.46237	32.45425	46.17084	64.02534	72.33375	70.57459	58.49304	43.84474	21.89517	6.05065	15.48369
660 nm	17.16279	25.08597	37.19915	53.24457	61.66202	61.64876	52.92947	40.53748	20.5513	5.67178	14.4277
650 nm	7.41031	13.87331	23.58652	36.58466	44.52704	46.68114	43.29612	35.0333	18.54001	5.15888	12.9528
640 nm	0.86731	6.28896	13.97286	24.1925	30.94004	33.8412	33.96064	29.53789	16.76952	4.74596	11.66611
632 nm	6.31058	5.38144	8.12584	14.50493	19.20885	21.69332	23.3568	22.36218	14.62469	4.31674	10.17504
620 nm	12.30713	11.14835	10.19822	10.6129	11.51927	12.01146	11.82552	11.57954	10.74291	3.79674	8.27459
610 nm	15.90291	15.40268	14.5224	13.4241	12.26719	11.13199	7.96292	3.36766	3.7069	2.49221	6.39746
600 nm	16.13517	16.04017	15.53709	14.69053	13.60108	12.5128	9.72423	6.45425	5.19106	2.59026	5.94693
589 nm	15.81612	16.17303	16.13568	15.76023	14.98919	14.13711	11.99417	9.78138	7.42051	2.7188	5.77772
580 nm	14.95818	15.45049	15.56736	15.37514	14.73991	13.98201	12.00929	9.9513	7.41487	2.6119	5.61207
570 nm	12.71201	13.46651	13.87622	14.03953	13.68465	13.13204	11.52036	9.75833	7.04065	2.34549	5.14657
560 nm	9.92761	10.82411	11.40258	11.79177	11.63405	11.2432	9.89913	8.34598	6.064	2.05099	4.5491
550 nm	7.37509	8.4213	9.17601	9.79839	9.84176	9.61191	8.53107	7.16543	5.1627	1.7782	3.97355
540 nm	4.3188	5.31387	6.06063	6.7413	6.90292	6.80063	5.9112	4.54737	2.75541	1.37447	2.73045
532 nm	2.89122	3.86435	4.63211	5.39685	5.68305	5.69911	5.02285	3.8198	1.96441	0.99146	1.50956
520 nm	0.7659	1.70049	2.56796	3.63638	4.32069	4.69361	4.68975	4.23976	3.14528	1.12426	2.53436
510 nm	0	0.85711	1.76513	3.05791	4.04115	4.65763	5.01439	4.7924	3.42343	1.11673	2.61298
500 nm	0.85711	0	0.97702	2.41398	3.54851	4.28031	4.76258	4.56433	3.1048	1.01493	2.34329
492 nm	1.76513	0.97702	0	1.54292	2.83073	3.68627	4.28476	4.10777	2.69603	0.89461	2.04602
480 nm	3.05791	2.41398	1.54292	0	1.41664	2.41819	3.18466	3.133	2.05339	0.69283	1.62426
470 nm	4.04115	3.54851	2.83073	1.41664	0	1.10252	2.06717	2.21998	1.53109	0.51519	1.30277
460 nm	4.65763	4.28031	3.68627	2.41819	1.10252	0	1.11121	1.46493	1.12233	0.3772	1.07475
450 nm	5.01439	4.76258	4.28476	3.18466	2.06717	1.11121	0	0.54167	0.60581	0.19023	0.82478
440 nm	4.7924	4.56433	4.10777	3.133	2.21998	1.46493	0.54167	0	0.25918	0.0669	0.66771
430 nm	3.42343	3.1048	2.69603	2.05339	1.53109	1.12233	0.60581	0.25918	0	0.04634	0.48419
420 nm	1.11673	1.01493	0.89461	0.69283	0.51519	0.3772	0.19023	0.0669	0.04634	0	0.3754
410 nm	2.61298	2.34329	2.04602	1.62426	1.30277	1.07475	0.82478	0.66771	0.48419	0.3754	0
400 nm	3.4617	3.15353	2.785	2.24253	1.82571	1.52473	1.18687	0.96752	0.7172	0.58638	0.20099
390 nm	3.85734	3.54461	3.15765	2.57763	2.13031	1.80622	1.44255	1.20825	0.95119	0.83326	0.48233
380 nm	4.00903	3.69626	3.31034	2.73171	2.28577	1.96316	1.60387	1.3772	1.14183	1.05251	0.75577
370 nm	4.05098	3.73949	3.35896	2.79095	2.35354	2.03763	1.68806	1.47178	1.25886	1.19421	0.94287
360 nm	3.31694	3.02658	2.70466	2.2525	1.90944	1.66656	1.40933	1.26777	1.16533	1.18069	1.04722
350 nm	1.35801	1.25044	1.15726	1.00569	0.86606	0.76919	0.68548	0.68951	0.82146	1.00068	1.09689
340 nm	1.27563	1.19103	1.13275	1.01498	0.87176	0.72882	0.45114	0.14534	0.36947	0.74954	1.12403
330 nm	5.17211	4.89375	4.51564	3.88871	3.35571	2.89378	2.15912	1.45145	0.45721	0.38492	1.1717
320 nm	7.54152	7.6266	7.47767	6.73849	5.9436	5.18056	3.91737	2.71337	1.09441	0.31332	1.28624
310 nm	10.14676	11.31694	12.62006	13.04809	12.31097	10.76579	7.68187	5.05391	2.11797	0.68421	1.84451
300 nm	4.65274	4.94943	5.07778	4.09501	2.6202	1.39372	0.94388	1.11588	0.97423	0.63316	2.00278

	400 nm	390 nm	380 nm	370 nm	360 nm	350 nm	340 nm	330 nm	320 nm	310 nm	300 nm
700 nm	26.05724	31.51605	36.1869	39.20807	40.44408	42.88026	48.24287	62.56261	80.90859	141.83158	129.61639
690 nm	24.03081	29.06073	33.27241	35.92258	36.85523	38.68902	43.12873	55.39424	71.21608	123.17944	116.49643
680 nm	22.58113	27.17308	30.88377	33.15478	33.68626	34.87055	38.57192	49.51151	63.83834	110.79421	107.3895
671 nm	20.81279	24.863	27.95999	29.77531	29.84	30.27813	33.14669	42.6443	55.389	97.27543	96.2504
660 nm	19.32035	22.76812	25.15523	26.45591	25.91545	25.44148	27.49491	35.98247	47.76575	86.57495	87.4403
650 nm	17.17814	19.75459	21.17535	21.81473	20.547	18.95111	20.05815	27.60042	38.43687	73.7887	75.65199
640 nm	15.27194	17.10318	17.82907	18.0491	16.32069	13.93901	14.51527	21.91706	32.39828	65.6378	67.59289
632 nm	13.10651	14.30785	14.58434	14.56357	12.51292	9.36278	9.59138	17.45166	27.78109	59.18697	61.01488
620 nm	10.68678	11.69766	11.88796	11.80697	9.53121	5.34564	5.3098	14.36611	24.64628	54.54028	56.287
610 nm	8.68264	9.8142	10.07758	10.02273	7.81481	3.0866	2.86948	12.39288	21.97369	49.07793	50.54535
600 nm	8.03772	9.07925	9.32853	9.28164	7.22742	2.78004	2.56316	11.48952	20.37933	45.00991	46.33467
589 nm	7.5837	8.42908	8.62792	8.58407	6.75181	2.96545	2.8348	10.59208	18.57317	40.01771	40.93097
580 nm	7.34259	8.14219	8.33176	8.29159	6.53801	2.9425	2.83203	10.22779	17.84182	37.68517	38.30363
570 nm	6.69169	7.38875	7.55993	7.53067	5.97742	2.84583	2.77897	9.28931	15.9939	32.33026	32.00472
560 nm	5.93257	6.59109	6.77156	6.75809	5.36346	2.46758	2.39786	8.35132	14.17827	26.6356	25.33968
550 nm	5.1652	5.78012	5.97507	5.98174	4.7701	2.14379	2.07447	7.39408	12.14845	20.31487	18.28534
540 nm	3.73481	4.5547	4.88032	4.94608	4.00031	1.60954	1.49243	6.10103	9.31143	13.02278	11.22412
532 nm	2.63267	3.70252	4.1522	4.27272	3.56001	1.46642	1.35594	5.26758	7.42676	9.29245	7.7017
520 nm	3.14294	3.46885	3.65436	3.72777	3.21985	1.46093	1.38801	4.56774	5.79464	6.80563	3.41035
510 nm	3.4617	3.85734	4.00903	4.05098	3.31694	1.35801	1.27563	5.17211	7.54152	10.14676	4.65274
500 nm	3.15353	3.54461	3.69626	3.73949	3.02658	1.25044	1.19103	4.89375	7.6266	11.31694	4.94943
492 nm	2.785	3.15765	3.31034	3.35896	2.70466	1.15726	1.13275	4.51564	7.47767	12.62006	5.07778
480 nm	2.24253	2.57763	2.73171	2.79095	2.2525	1.00569	1.01498	3.88871	6.73849	13.04809	4.09501
470 nm	1.82571	2.13031	2.28577	2.35354	1.90944	0.86606	0.87176	3.35571	5.9436	12.31097	2.6202
460 nm	1.52473	1.80622	1.96316	2.03763	1.66656	0.76919	0.72882	2.89378	5.18056	10.76579	1.39372
450 nm	1.18687	1.44255	1.60387	1.68806	1.40933	0.68548	0.45114	2.15912	3.91737	7.68187	0.94388
440 nm	0.96752	1.20825	1.3772	1.47178	1.26777	0.68951	0.14534	1.45145	2.71337	5.05391	1.11588
430 nm	0.7172	0.95119	1.14183	1.25886	1.16533	0.82146	0.36947	0.45721	1.09441	2.11797	0.97423
420 nm	0.58638	0.83326	1.05251	1.19421	1.18069	1.00068	0.74954	0.38492	0.31332	0.68421	0.63316
410 nm	0.20099	0.48233	0.75577	0.94287	1.04722	1.09689	1.12403	1.1717	1.28624	1.84451	2.00278
400 nm	0	0.29339	0.58473	0.7877	0.92968	1.05393	1.17496	1.36309	1.59477	2.42531	2.76956
390 nm	0.29339	0	0.29998	0.51624	0.70207	0.92811	1.19089	1.59292	2.01121	3.3081	3.95383
380 nm	0.58473	0.29998	0	0.22633	0.45744	0.79311	1.20081	1.80684	2.40212	4.15688	5.10508
370 nm	0.7877	0.51624	0.22633	0	0.25475	0.65324	1.14405	1.8689	2.57142	4.61381	5.86178
360 nm	0.92968	0.70207	0.45744	0.25475	0	0.43692	0.99808	1.83951	2.65742	5.02438	6.67437
350 nm	1.05393	0.92811	0.79311	0.65324	0.43692	0	0.61311	1.57143	2.52402	5.30013	7.79347
340 nm	1.17496	1.19089	1.20081	1.14405	0.99808	0.61311	0	1.01398	2.0621	5.18592	8.98335
330 nm	1.36309	1.59292	1.80684	1.8689	1.83951	1.57143	1.01398	0	1.13469	4.73221	10.81109
320 nm	1.59477	2.01121	2.40212	2.57142	2.65742	2.52402	2.0621	1.13469	0	3.95875	12.62103
310 nm	2.42531	3.3081	4.15688	4.61381	5.02438	5.30013	5.18592	4.73221	3.95875	0	17.92134
300 nm	2.76956	3.95383	5.10508	5.86178	6.67437	7.79347	8.98335	10.81109	12.62103	17.92134	0