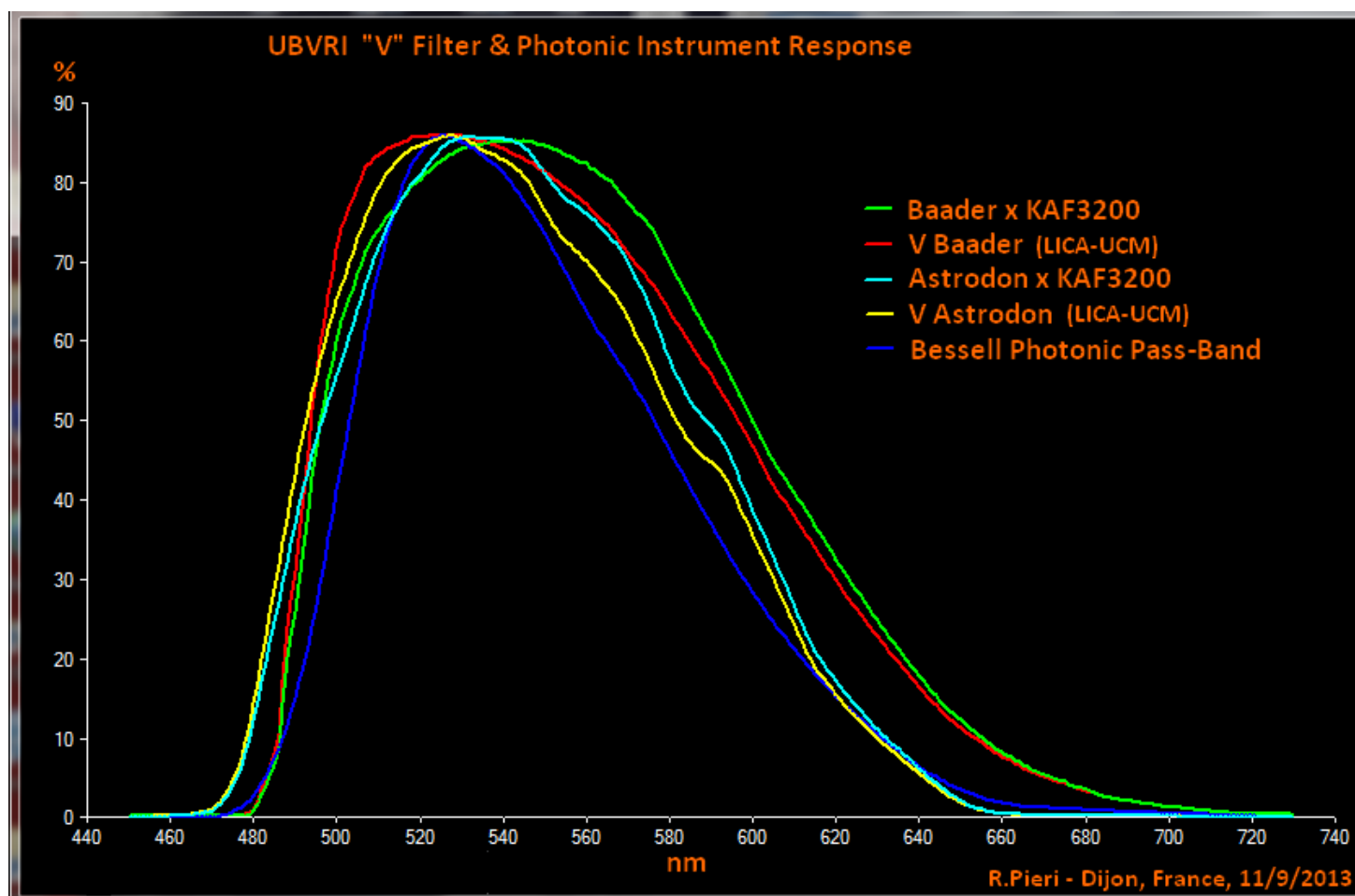


V Photometric Filters and System Pass-Band



- Photonic means photon-count sensitive system: electron/photon (like QE(λ)) instead electron/energy at Johnson's time, using PMT.

- V Baader and Astrodon digitized from LICA-UCM graphs

- KAF Sensor is a KAF3200ME

- VphotBes in hereafter table is a V photonic system reference (not a filter only) from M.Bessell published on 2012, "Spectrophotometric Libraries, Revised Photonic Passbands and Zero-points for UBVRI, Hipparcos and Tycho Photometry." PASP. α

This definition is very similar to most others like Appellaniz, Pickles, CDS, Bessell 1990 !... Both Baader and Astrodon are far from it.

The graph is normalized at the max efficiency of the KAF3200ME.

At $H\alpha$ V Baader used with a KAF3200ME reaches 11.4% , the V Astrodon only 1% .

At $H\beta$ V Baader and the same sensor reaches 10.3% but the Astrodon tops at 31.6 % !

R.Pieri, Dijon, France, 11/9/2013

Numerical Table of response of V filters and photonic systems:

nm	VBaader	VB × KAF	VphotBes	VAstDn	VA × KAF
420	0.2	0.1	0	0.2	0.2
421	0.2	0.1	0	0.3	0.2
422	0.2	0.1	0	0.3	0.3
423	0.2	0.1	0	0.5	0.3
424	0.2	0.1	0	0.5	0.3
425	0.2	0.1	0	0.5	0.3
426	0.2	0.1	0	0.3	0.3
427	0.2	0.1	0	0.3	0.3
428	0.2	0.1	0	0.3	0.3
429	0.2	0.1	0	0.3	0.2
430	0.2	0.1	0	0.3	0.2
431	0.2	0.2	0	0.3	0.2
432	0.2	0.2	0	0.3	0.2
433	0.2	0.2	0	0.3	0.2
434	0.2	0.2	0	0.3	0.2
435	0.2	0.2	0	0.3	0.2
436	0.2	0.2	0	0.3	0.2
437	0.2	0.2	0	0.2	0.2
438	0.2	0.2	0	0.2	0.2
439	0.2	0.2	0	0.2	0.2
440	0.2	0.2	0	0.2	0.2
441	0.2	0.2	0	0.2	0.2
442	0.2	0.2	0	0.2	0.2
443	0.2	0.2	0	0.2	0.2
444	0.2	0.2	0	0.2	0.1
445	0.2	0.2	0	0.2	0.1
446	0.2	0.2	0	0.2	0.1
447	0.2	0.2	0	0.2	0.1
448	0.2	0.2	0	0.1	0.1
449	0.2	0.2	0	0.1	0.1
450	0.2	0.2	0	0.1	0.1
451	0.2	0.2	0	0.1	0.1
452	0.2	0.2	0	0.1	0.1
453	0.2	0.2	0	0.1	0.1
454	0.2	0.2	0	0.2	0.1
455	0.2	0.2	0	0.2	0.1
456	0.2	0.2	0	0.2	0.1
457	0.2	0.2	0	0.2	0.1
458	0.2	0.2	0	0.2	0.2
459	0.2	0.2	0	0.2	0.2
460	0.2	0.2	0	0.2	0.2
461	0.2	0.2	0	0.2	0.2
462	0.2	0.2	0	0.3	0.2
463	0.2	0.2	0	0.3	0.2
464	0.2	0.2	0	0.5	0.3
465	0.2	0.2	0	0.5	0.5
466	0.2	0.2	0	0.6	0.5
467	0.2	0.2	0	0.7	0.6
468	0.2	0.2	0	0.8	0.7
469	0.2	0.2	0	1	0.9
470	0.2	0.2	0	1.3	1.2

471	0.2	0.2	0.1	1.7	1.4	
472	0.2	0.2	0.2	2.3	2	
473	0.2	0.2	0.3	3.1	2.7	
474	0.2	0.2	0.6	4.2	3.5	
475	0.3	0.4	0.8	5.4	4.5	
476	0.3	0.4	1.2	6.9	5.8	
477	0.3	0.4	1.6	8.7	7.5	
478	0.5	0.4	2.1	11	9.3	
479	0.7	0.6	2.6	13.6	11.7	
480	1	0.9	3.3	16.7	14.3	
481	2.6	2.1	4.1	19.9	17	
482	4.1	3.4	5	23.2	19.8	
483	5.6	4.7	6.1	26.6	22.7	
484	7.2	6.1	7.2	30.1	25.6	
485	9.3	7.9	8.6	33.6	28.7	
486	12.2	10.3	10	37.1	31.6	H-beta
487	20	16.9	11.7	40.4	34.6	
488	28.1	23.7	13.4	43.8	37.4	
489	31.8	26.9	15.4	47.1	40.2	
490	36	30.4	17.5	50.3	43	
491	40.7	34.4	19.8	53.6	45.8	
492	47.4	40	22.4	56.8	48.5	
493	53.8	45.4	25.2	59.7	51	
494	59.6	50.4	28.1	62.4	53.3	
495	64.7	54.7	31.1	64.8	55.4	
496	69.3	58.6	34.3	67.1	57.5	
497	73.1	61.7	37.6	69.5	59.3	
498	76.6	64.7	41	71.7	61.3	
499	79.9	67.5	44.5	73.9	63.2	
500	83.2	70.3	48	75.9	64.9	
501	86.5	73.4	51.5	77.9	66.8	
502	88.1	75.2	54.9	79.7	68.8	
503	89.5	76.9	58.3	81.5	70.7	
504	90.9	78.5	61.7	83.2	72.7	
505	92.3	80.3	65	85	74.7	
506	93.9	82.2	68.3	86.6	76.6	
507	95.3	83.8	71.4	88.1	78.3	
508	96	85	74.5	89.6	80.2	
509	96.6	85.9	77.5	91.1	81.9	
510	97.1	86.9	80.3	92.4	83.7	
511	97.7	87.9	82.9	93.6	85.2	
512	98	88.7	85.3	94.6	86.6	
513	98.3	89.4	87.4	95.5	87.8	
514	98.6	90.3	89.5	96	88.9	
515	98.8	91	91.3	96.7	90	
516	99.1	91.7	93	97.2	91	
517	99.3	92.4	94.4	97.7	92	
518	99.7	93.3	95.7	98	92.8	
519	99.8	93.9	96.7	98.4	93.6	
520	99.8	94.4	97.7	98.7	94.4	
521	99.8	95	98.5	99	95.2	
522	99.9	95.5	99.1	99.2	96	
523	99.9	96	99.5	99.5	96.7	
524	99.9	96.6	99.9	99.7	97.4	
525	99.9	97.1	100	99.9	98.1	
526	99.9	97.5	100	99.9	98.7	
527	99.9	98	99.9	100	99.2	
528	99.9	98.2	99.8	100	99.5	
529	99.9	98.6	99.4	100	99.8	

530	100	98.9	99.1	99.9	99.9
531	99.8	99.1	98.8	99.5	100
532	99.7	99.2	98.5	99.3	99.9
533	99.4	99.3	98.1	98.8	99.9
534	99.3	99.4	97.7	98.5	99.8
535	99.1	99.5	97.3	98	99.7
536	99	99.6	96.9	97.8	99.5
537	98.7	99.8	96.3	97.4	99.5
538	98.6	99.9	95.8	97.2	99.5
539	98.4	100	95.2	96.9	99.5
540	98	99.9	94.6	96.5	99.5
541	97.8	100	93.9	96.2	99.4
542	97.4	99.9	93.1	95.8	99.3
543	97.2	100	92.3	95.3	99.2
544	96.9	99.9	91.5	94.9	99
545	96.6	100	90.6	94.2	98.5
546	96.3	99.9	89.6	93.2	97.9
547	95.9	99.8	88.7	92.3	97.1
548	95.5	99.6	87.8	91.3	96.3
549	95	99.4	86.7	90.1	95.3
550	94.6	99.3	85.7	89	94.5
551	94.2	99.1	84.6	88	93.7
552	93.8	98.9	83.4	87.1	92.9
553	93.4	98.7	82.4	86.1	92.1
554	92.9	98.4	81.2	85.3	91.5
555	92.3	98	80.1	84.6	90.9
556	91.9	97.8	78.9	84	90.4
557	91.4	97.5	77.7	83.4	90
558	90.8	97.1	76.6	82.9	89.6
559	90.3	96.8	75.4	82.3	89.2
560	89.9	96.6	74.4	81.7	88.8
561	89.2	96	73.3	81	88.2
562	88.6	95.7	72.3	80.3	87.6
563	88	95.2	71.3	79.5	86.9
564	87.4	94.8	70.4	78.7	86.2
565	86.8	94.4	69.5	77.9	85.5
566	86.3	94	68.5	77	85
567	85.3	93.2	67.6	76.3	84.4
568	84.5	92.5	66.8	75.6	83.7
569	83.6	91.7	65.9	74.6	82.8
570	82.8	91	65	73.4	81.6
571	82	90.3	64	72.1	80.3
572	81.1	89.6	62.9	70.7	79
573	80.4	89	61.9	69.5	77.7
574	79.6	88.3	60.8	68.3	76.6
575	78.8	87.6	59.7	67	75.4
576	78.1	86.9	58.6	65.7	73.9
577	77.3	85.8	57.5	64.3	72.3
578	76.3	84.5	56.3	62.9	70.5
579	75.3	83.3	55.1	61.5	68.9
580	74.3	82.2	54	60.3	67.4
581	73.3	81	52.9	59	65.9
582	72.3	79.7	51.7	57.9	64.6
583	71.4	78.5	50.6	56.8	63.3
584	70.4	77.5	49.5	55.8	62
585	69.5	76.3	48.4	55	61.1
586	68.6	75.1	47.3	54.3	60.1
587	67.6	74.1	46.3	53.6	59.4
588	66.7	72.9	45.1	53.1	58.7

589	65.8	71.8	44.1	52.7	58.2
590	64.8	70.7	43	52.1	57.5
591	63.8	69.5	42	51.5	56.8
592	62.7	68.2	40.9	50.9	55.9
593	61.8	67.1	39.9	50.1	55
594	60.8	65.8	38.8	49.2	53.8
595	59.8	64.8	37.9	48	52.6
596	58.8	63.5	36.8	46.7	51.2
597	57.7	62.3	35.9	45.5	49.7
598	56.6	61	35	44.1	48
599	55.4	59.6	34	42.7	46.5
600	54.4	58.6	33.1	41.4	45
601	53.2	57.4	32.2	40.1	43.6
602	52	56.1	31.2	38.8	42.3
603	50.9	54.9	30.4	37.5	41
604	49.7	53.8	29.5	36.4	39.7
605	48.8	52.8	28.7	35.1	38.3
606	47.8	51.8	27.9	33.7	36.9
607	46.9	50.8	27	32.3	35.4
608	46	49.9	26.2	30.9	33.9
609	45.1	48.9	25.4	29.6	32.4
610	44.1	48	24.7	28.2	31
611	43.3	47.1	23.9	26.8	29.5
612	42.4	46.1	23.2	25.5	28.1
613	41.4	45.2	22.5	24.4	26.8
614	40.5	44.2	21.8	23.2	25.5
615	39.6	43.2	21.1	22.1	24.5
616	38.5	42.1	20.4	21.2	23.4
617	37.6	41.1	19.7	20.4	22.5
618	36.7	40.1	19.1	19.6	21.7
619	35.7	39.2	18.4	18.9	20.9
620	34.8	38.1	17.8	18.1	20
621	33.9	37.2	17.2	17.4	19.2
622	33.1	36.4	16.7	16.7	18.5
623	32.1	35.3	16.1	16	17.7
624	31.3	34.5	15.5	15.3	17
625	30.5	33.6	14.9	14.6	16.3
626	29.7	32.7	14.3	14	15.6
627	28.9	31.8	13.9	13.4	14.9
628	28.1	30.9	13.3	12.8	14.2
629	27.2	29.9	12.8	12.1	13.5
630	26.5	29.2	12.2	11.7	12.9
631	25.7	28.3	11.8	11.1	12.4
632	25	27.5	11.3	10.5	11.8
633	24.2	26.6	10.7	10	11.2
634	23.5	25.8	10.3	9.6	10.6
635	22.7	24.9	9.8	9	10
636	22	24.2	9.3	8.5	9.4
637	21.2	23.2	8.7	8	8.9
638	20.5	22.4	8.3	7.6	8.4
639	19.8	21.7	7.9	7	7.8
640	19.1	20.9	7.5	6.5	7.2
641	18.5	20.2	7	6.1	6.6
642	17.8	19.5	6.6	5.5	6.1
643	17.1	18.7	6.3	5	5.6
644	16.5	18.1	5.9	4.5	5
645	15.8	17.3	5.6	4.1	4.5
646	15.1	16.5	5.2	3.7	4.1
647	14.7	16	4.9	3.3	3.6

648	14.2	15.5	4.7	2.9	3.3	
649	13.7	15	4.3	2.6	2.9	
650	13.3	14.4	4.1	2.3	2.6	
651	12.8	14	3.8	2	2.2	
652	12.3	13.4	3.6	1.7	1.9	
653	11.9	12.9	3.4	1.4	1.6	
654	11.4	12.3	3.1	1.3	1.4	
655	10.9	11.9	2.9	1	1.2	
656	10.6	11.4	2.8	0.9	1	H-alpha
657	10.1	10.9	2.6	0.8	0.9	
658	9.7	10.4	2.4	0.7	0.8	
659	9.3	10	2.3	0.6	0.7	
660	9	9.6	2.2	0.6	0.6	
661	8.6	9.3	2.1	0.5	0.5	
662	8.4	8.9	2	0.5	0.5	
663	8	8.6	1.9	0.5	0.5	
664	7.7	8.2	1.7	0.5	0.5	
665	7.3	7.7	1.6	0.3	0.5	
666	7.1	7.5	1.6	0.3	0.5	
667	6.8	7.2	1.5	0.3	0.5	
668	6.4	6.8	1.5	0.3	0.5	
669	6.2	6.6	1.4	0.3	0.5	
670	5.9	6.2	1.4	0.3	0.3	
671	5.8	6.1	1.4	0.3	0.3	
672	5.6	5.9	1.3	0.3	0.3	
673	5.4	5.6	1.3	0.3	0.3	
674	5.1	5.4	1.3	0.3	0.3	
675	5	5.3	1.2	0.3	0.3	
676	4.8	4.9	1.2	0.3	0.3	
677	4.5	4.7	1.2	0.3	0.3	
678	4.3	4.5	1.2	0.3	0.3	
679	4.2	4.3	1.2	0.3	0.3	
680	4	4.1	1	0.3	0.3	
681	3.7	3.9	1	0.3	0.3	
682	3.6	3.8	1	0.3	0.3	
683	3.4	3.5	1	0.3	0.3	
684	3.1	3.2	0.9	0.3	0.3	
685	3	3.1	0.9	0.2	0.3	
686	2.9	2.9	0.9	0.2	0.3	
687	2.8	2.8	0.9	0.2	0.2	
688	2.7	2.7	0.8	0.2	0.2	
689	2.6	2.6	0.8	0.2	0.2	
690	2.4	2.5	0.8	0.2	0.2	
691	2.4	2.5	0.8	0.2	0.2	
692	2.3	2.3	0.7	0.2	0.2	
693	2.2	2.2	0.7	0.2	0.2	
694	2.1	2.1	0.7	0.2	0.2	
695	2	2	0.7	0.2	0.2	
696	2	2	0.7	0.2	0.2	
697	1.9	1.9	0.7	0.2	0.2	
698	1.7	1.8	0.6	0.2	0.2	
699	1.6	1.6	0.6	0.2	0.2	
700	1.5	1.5	0.6	0.2	0.2	
701	1.5	1.5	0.6	0.2	0.2	
702	1.4	1.4	0.6	0.2	0.2	
703	1.4	1.4	0.6	0.2	0.2	
704	1.3	1.3	0.5	0.2	0.2	
705	1.3	1.3	0.5	0.2	0.2	
706	1.2	1.2	0.5	0.2	0.2	

707	1	1.1	0.5	0.2	0.2
708	1	1.1	0.5	0.2	0.2
709	0.9	0.9	0.5	0.2	0.1
710	0.9	0.9	0.3	0.1	0.1
711	0.8	0.8	0.3	0.1	0.1
712	0.8	0.8	0.3	0.1	0.1
713	0.7	0.7	0.3	0.1	0.1
714	0.7	0.7	0.3	0.1	0.1
715	0.6	0.6	0.3	0.1	0.1
716	0.6	0.6	0.2	0.1	0.1
717	0.6	0.6	0.2	0.1	0.1
718	0.6	0.6	0.2	0.1	0.1
719	0.6	0.6	0.2	0.1	0.1
720	0.5	0.5	0.2	0.1	0.1
721	0.5	0.5	0.2	0.1	0.1
722	0.5	0.5	0.1	0.1	0.1
723	0.5	0.5	0.1	0.1	0.1
724	0.5	0.5	0.1	0.1	0.1
725	0.5	0.5	0.1	0.1	0.1
726	0.5	0.5	0.1	0.1	0.1
727	0.5	0.5	0.1	0.1	0.1
728	0.5	0.5	0.1	0.1	0.1
729	0.5	0.5	0.1	0.1	0.1
730	0.3	0.4	0.1	0.1	0.1
731	0.3	0.4	0.1	0.1	0.1
732	0.3	0.4	0.1	0.1	0.1
733	0.3	0.4	0.1	0.1	0
734	0.3	0.4	0.1	0	0
735	0.3	0.4	0.1	0	0
736	0.3	0.4	0	0	0
737	0.3	0.4	0	0	0
738	0.3	0.4	0	0	0
739	0.3	0.4	0	0	0
740	0.3	0.4	0	0	0
741	0.3	0.4	0	0	0
742	0.3	0.4	0	0	0
743	0.3	0.4	0	0	0
744	0.3	0.4	0	0	0
745	0.3	0.4	0	0	0
746	0.3	0.4	0	0	0
747	0.2	0.2	0	0	0
748	0.2	0.2	0	0	0
749	0.2	0.2	0	0.1	0.1
750	0.2	0.2	0	0.1	0.1
