Table 1-4—Atomization Parameters for CP Straight Stream Nozzle

CP STRAIGHT STREAM NOZZLE FIXED-WING — 0.061 Orifice, 0° Angle

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	497	C	2.0	438	M	2.1	389	M	2.8	347	M	4.2	315	F	6.1	290	F	8.7	274	F	11.9
30	524	C	2.2	463	M	2.2	409	M	2.7	365	M	3.9	328	M	5.7	300	F	8.1	281	F	11.2
40	555	VC	2.3	490	C	2.1	433	M	2.5	385	M	3.6	345	M	5.2	314	F	7.5	291	F	10.4
50	589	VC	2.3	520	C	1.9	460	M	2.2	408	M	3.1	365	M	4.5	330	F	6.7	304	F	9.4
60	626	VC	2.1	554	C	1.6	490	M	1.7	435	M	2.4	388	M	3.8	350	F	5.7	320	F	8.3

CP STRAIGHT STREAM NOZZLE FIXED-WING — 0.061 Orifice, 5° Angle

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	453	M	2.8	394	M	3.0	344	M	3.8	302	F	5.1	268	F	7.1	243	F	9.8	227	VF	13.0
30	480	C	3.1	418	M	3.1	364	M	3.7	318	M	4.9	281	F	6.8	253	F	9.3	233	VF	12.3
40	511	C	3.2	445	M	3.1	387	M	3.5	338	M	4.6	298	F	6.3	265	F	8.6	242	VF	11.5
50	544	VC	3.2	474	M	2.9	413	M	3.2	361	M	4.1	317	F	5.7	281	F	7.8	254	F	10.6
60	580	VC	3.1	507	C	2.6	443	M	2.8	387	M	3.5	339	M	4.9	300	F	7.0	269	F	9.6

CP STRAIGHT STREAM NOZZLE 0.061 Orifice, 30° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	453	M	2.5	391	M	2.9	336	F	3.9	291	F	5.5	253	VF	7.8	224	VF	10.7	204	VF	14.2
30	477	M	2.9	411	M	3.2	353	F	4.0	304	F	5.5	263	F	7.6	231	VF	10.4	207	VF	13.7
40	504	M	3.2	434	M	3.3	373	M	4.1	320	F	5.4	276	F	7.4	240	F	9.9	213	VF	13.1
50	534	M	3.4	461	M	3.4	396	M	3.9	340	F	5.1	292	F	6.9	252	F	9.4	222	VF	12.4
60	567	M	3.5	490	M	3.3	422	M	3.7	362	F	4.7	311	F	6.4	268	F	8.7	234	VF	11.6

CP STRAIGHT STREAM NOZZLE 0.078 Orifice, 0° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	508	C	1.3	450	M	1.5	399	M	2.3	358	M	3.7	325	M	5.8	300	F	8.4	284	F	11.7
30	535	VC	1.5	473	C	1.5	419	M	2.2	374	M	3.4	338	M	5.3	309	F	7.8	290	F	10.9
40	565	VC	1.6	500	C	1.4	442	M	1.9	394	M	3.0	354	M	4.8	322	M	7.1	299	F	10.1
50	598	VC	1.5	529	C	1.2	469	M	1.5	416	M	2.5	373	M	4.1	337	M	6.3	311	F	9.1
60	634	VC	1.3	562	VC	0.9	498	M	1.0	442	M	1.8	395	M	3.3	356	M	5.3	326	F	8.0

CP STRAIGHT STREAM NOZZLE 0.078 Orifice, 5° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	466	C	2.1	406	M	2.3	356	M	3.2	313	M	4.6	279	F	6.7	254	F	9.4	237	VF	12.7
30	492	C	2.3	429	M	2.4	375	M	3.1	329	M	4.4	292	M	6.3	263	F	8.9	242	VF	12.0
40	521	C	2.4	455	C	2.3	397	M	2.9	348	M	4.0	307	M	5.8	274	F	8.2	250	F	11.2
50	554	VC	2.4	484	C	2.1	423	M	2.5	370	M	3.5	325	M	5.2	289	F	7.4	262	F	10.3
60	589	VC	2.2	516	C	1.8	451	M	2.1	395	M	2.9	347	M	4.4	307	F	6.5	276	F	9.2

CP STRAIGHT STREAM NOZZLE 0.078 Orifice, 30° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	470	M	1.5	407	M	2.0	353	F	3.1	306	F	4.8	269	F	7.1	240	F	10.1	219	VF	13.7
30	493	M	1.9	427	M	2.2	369	M	3.2	319	F	4.8	278	F	6.9	245	F	9.8	221	VF	13.2
40	519	M	2.2	449	M	2.4	388	M	3.2	334	F	4.6	290	F	6.6	254	F	9.3	226	VF	12.5
50	548	C	2.3	475	M	2.4	410	M	3.0	353	M	4.3	305	F	6.2	265	F	8.7	234	VF	11.8
60	581	C	2.4	503	M	2.3	435	M	2.7	375	M	3.9	323	F	5.6	280	F	7.9	245	F	10.9

CP STRAIGHT STREAM NOZZLE 0.093 Orifice, 0° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	514	C	0.9	455	M	1.2	405	M	2.0	363	M	3.5	329	M	5.6	304	F	8.4	287	F	11.7
30	540	VC	1.1	478	C	1.2	424	M	1.9	378	M	3.2	341	M	5.2	313	M	7.7	293	F	10.9
40	569	VC	1.1	504	C	1.0	446	M	1.6	397	M	2.8	357	M	4.6	325	M	7.0	301	F	10.0
50	602	VC	1.0	532	VC	0.8	471	C	1.2	419	M	2.2	375	M	3.9	339	M	6.1	312	F	9.0
60	637	VC	0.8	564	VC	0.4	500	C	0.7	444	M	1.5	396	M	3.0	357	M	5.1	327	F	7.9

CP STRAIGHT STREAM NOZZLE 0.093 Orifice, 5° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	472	C	1.6	413	M	1.9	361	M	2.9	319	M	4.4	284	F	6.6	259	F	9.3	241	VF	12.7
30	498	C	1.8	435	M	2.0	380	M	2.7	334	M	4.1	296	M	6.1	267	F	8.8	246	VF	12.0
40	527	C	1.9	460	C	1.9	402	M	2.5	352	M	3.7	311	M	5.6	278	F	8.1	254	F	11.1
50	558	VC	1.8	488	C	1.7	426	M	2.1	373	M	3.2	328	M	4.9	292	F	7.2	264	F	10.2
60	593	VC	1.6	519	C	1.3	454	M	1.6	397	M	2.6	349	M	4.1	309	M	6.3	278	F	9.1

CP STRAIGHT STREAM NOZZLE 0.093 Orifice, 30° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	481	M	0.8	417	M	1.4	362	M	2.5	316	F	4.3	278	F	6.8	248	F	9.8	227	VF	13.4
30	503	M	1.2	436	M	1.6	378	M	2.6	328	F	4.3	286	F	6.5	253	F	9.4	228	VF	12.9
40	528	C	1.5	458	M	1.7	396	M	2.6	342	M	4.1	297	F	6.2	261	F	8.9	233	VF	12.3
50	557	C	1.6	483	M	1.7	417	M	2.4	360	M	3.8	312	F	5.7	272	F	8.3	240	F	11.5
60	588	C	1.6	511	M	1.5	442	M	2.1	381	M	3.3	329	F	5.1	286	F	7.5	251	F	10.6

CP STRAIGHT STREAM NOZZLE 0.125 Orifice, 0° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	512	C	0.7	452	M	1.1	401	M	2.2	358	M	3.8	324	M	6.1	298	F	8.9	281	F	12.4
30	537	VC	0.8	474	C	1.1	419	M	2.0	373	M	3.4	335	M	5.5	306	F	8.3	285	F	11.6
40	565	VC	0.8	498	C	0.9	440	M	1.6	390	M	2.9	349	M	4.9	316	M	7.5	292	F	10.6
50	595	VC	0.6	525	C	0.6	464	C	1.1	410	M	2.3	366	M	4.1	329	M	6.5	301	F	9.6
60	629	VC	0.4	556	VC	0.1	490	C	0.6	434	M	1.6	385	M	3.2	346	M	5.5	314	F	8.4

CP STRAIGHT STREAM NOZZLE 0.125 Orifice, 5° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	472	C	1.4	412	M	1.8	360	M	2.9	316	M	4.6	281	F	6.9	255	F	9.8	237	VF	13.4
30	496	C	1.5	432	M	1.8	377	M	2.7	330	M	4.3	291	M	6.4	261	F	9.2	240	VF	12.6
40	523	C	1.5	456	C	1.7	397	M	2.4	347	M	3.8	305	M	5.8	271	F	8.4	246	F	11.7
50	554	VC	1.4	483	C	1.4	420	M	2.0	366	M	3.2	321	M	5.1	284	F	7.5	255	F	10.6
60	587	VC	1.1	512	C	1.0	446	M	1.4	389	M	2.5	340	M	4.2	299	M	6.5	267	F	9.4

CP STRAIGHT STREAM NOZZLE FIXED-WING — 0.125 Orifice, 30° Angle

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	489	M	0.1	425	M	0.8	369	M	2.1	322	F	4.1	283	F	6.6	253	F	9.8	231	VF	13.6
30	510	M	0.4	442	M	1.0	383	M	2.1	332	M	3.9	290	F	6.3	256	F	9.4	231	VF	13.0
40	534	C	0.6	462	M	1.0	400	M	2.0	345	M	3.7	300	F	5.9	262	F	8.8	234	VF	12.3
50	560	C	0.7	486	M	0.9	420	M	1.8	362	M	3.3	313	M	5.4	272	F	8.1	239	F	11.5
60	590	VC	0.6	512	M	0.7	442	M	1.4	381	M	2.8	328	M	4.7	284	F	7.3	248	F	10.5

CP STRAIGHT STREAM NOZZLE FIXED-WING — 0.171 Orifice, 0° Angle

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	476	M	2.1	415	M	2.7	363	M	4.0	319	F	5.8	284	F	8.3	257	F	11.4	238	VF	15.1
30	498	C	2.1	434	M	2.6	378	M	3.6	331	M	5.3	292	F	7.7	262	F	10.6	240	VF	14.2
40	524	C	2.0	456	M	2.3	397	M	3.2	346	M	4.8	304	F	6.9	270	F	9.7	244	VF	13.1
50	552	VC	1.7	481	M	1.9	418	M	2.7	364	M	4.1	318	F	6.1	281	F	8.7	252	F	11.9
60	584	VC	1.4	509	C	1.4	443	M	2.0	385	M	3.2	336	F	5.1	295	F	7.6	263	F	10.7

CP STRAIGHT STREAM NOZZLE FIXED-WING — 0.171 Orifice, 5° Angle

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	438	M	2.6	377	M	3.3	324	M	4.5	279	F	6.4	243	F	9.0	216	VF	12.1	196	VF	15.9
30	460	M	2.6	395	M	3.1	338	M	4.3	290	F	6.0	251	F	8.4	220	VF	11.4	197	VF	15.0
40	485	C	2.5	416	M	2.9	356	M	3.9	305	M	5.5	262	F	7.7	227	F	10.5	201	VF	14.0
50	513	C	2.3	441	M	2.6	377	M	3.4	322	M	4.8	276	F	6.9	238	F	9.6	208	VF	12.9
60	544	VC	2.0	468	M	2.1	401	M	2.7	343	M	4.0	293	F	5.9	251	F	8.5	218	VF	11.6

CP STRAIGHT STREAM NOZZLE 0.171 Orifice, 30° Angle
FIXED-WING

PSI	Airspeed, mph																				
	100			110			120			130			140			150			160		
	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100	$D_{V0.5}$	DSC	%<100
20	467	M	0.6	402	M	1.5	345	F	3.1	297	F	5.3	257	F	8.0	226	VF	11.4	203	VF	15.5
30	486	M	0.9	417	M	1.6	357	M	3.0	305	F	5.0	262	F	7.7	227	F	10.9	200	VF	14.8
40	507	M	1.0	435	M	1.6	371	M	2.8	316	F	4.7	269	F	7.2	231	F	10.3	201	VF	14.0
50	532	M	1.0	456	M	1.4	389	M	2.5	330	F	4.2	280	F	6.5	238	F	9.5	205	VF	13.0
60	560	C	0.8	480	M	1.1	410	M	2.1	347	M	3.6	294	F	5.8	248	F	8.6	211	VF	12.0