

Efficiency table for the open UVC function SPECTRA Silent PRO Lite 110W									
The table shows the time required to kill different types of bacteria and viruses from different distances									
	Type	Distance in meters						Time	REFERENCE
		1	2	3	4	5	6		
Aeromonas hydrophila ATCC7966	Bacteria	16,89	62,50	147,06	200,00	312,50	500,00	N e e d e d t i m e i n s e c o n d s	Wilson et al. 1992
Aeromonas salmonicida	Bacteria	19,93	73,75	173,53	236,00	368,75	590,00		Liltved and Landfald 1996
Bacillus anthracis – Anthrax	Bacteria	61,08	226,00	531,76	723,20	1 130,00	1 808,00		UV-Light.co.UK
Bacillus magaterium sp. (veg.)	Bacteria	17,57	65,00	152,94	208,00	325,00	520,00		UV-Light.co.UK
Bacillus paratyphus	Bacteria	43,24	160,00	376,47	512,00	800,00	1 280,00		UV-Light.co.UK
Bacillus subtilis	Bacteria	78,38	290,00	682,35	928,00	1 450,00	2 320,00		UV-Light.co.UK
Campylobacter jejuni	Bacteria	13,51	50,00	117,65	160,00	250,00	400,00		Measurement by Grizzly
Campylobacter jejuni ATCC 43429	Bacteria	15,54	57,50	135,29	184,00	287,50	460,00		Wilson et al. 1992
Citrobacter diversus	Bacteria	38,85	143,75	338,24	460,00	718,75	1 150,00		Giese and Darby 2000
Citrobacter freundii	Bacteria	43,92	162,50	382,35	520,00	812,50	1 300,00		Giese and Darby 2000
Clostridium tetani	Bacteria	74,32	275,00	647,06	880,00	1 375,00	2 200,00		Light Sources Inc. 2014
Corynebacterium diphtheriae	Bacteria	45,54	168,50	396,47	539,20	842,50	1 348,00		UV-Light.co.UK
Ebertelia typhosa	Bacteria	28,92	107,00	251,76	342,40	535,00	856,00		UV-Light.co.UK
Escherichia coli	Bacteria	13,51	50,00	117,65	160,00	250,00	400,00		Measurement by Grizzly
Escherichia coli O157:H7	Bacteria	13,51	50,00	117,65	160,00	250,00	400,00		Yaun et al. 2003
Escherichia coli O157:H7 CCUG 29193	Bacteria	23,65	87,50	205,88	280,00	437,50	700,00		Sommer et al. 2000
Halobacterium elongate ATCC33173	Bacteria	3,38	12,50	29,41	40,00	62,50	100,00		Martin et al. 2000
Halobacterium salinarum ATCC43214	Bacteria	67,57	250,00	588,24	800,00	1 250,00	2 000,00		Martin et al. 2000
Klebsiella pneumoniae	Bacteria	67,57	250,00	588,24	800,00	1 250,00	2 000,00		Giese and Darby 2000
Klebsiella terrigena ATCC33257	Bacteria	37,16	137,50	323,53	440,00	687,50	1 100,00		Wilson et al. 1992
Legionella pneumophila	Bacteria	23,65	87,50	205,88	280,00	437,50	700,00		Measurement by Grizzly
Legionella pneumophila ATCC33152	Bacteria	26,01	96,25	226,47	308,00	481,25	770,00		Oguma et al.2004
Leptospiranicola – infectious Jaundice	Bacteria	42,57	157,50	370,59	504,00	787,50	1 260,00		UV-Light.co.UK
Micrococcus candidus	Bacteria	81,76	302,50	711,76	968,00	1 512,50	2 420,00		UV-Light.co.UK
Micrococcus sphaeroides	Bacteria	13,51	50,00	117,65	160,00	250,00	400,00		UV-Light.co.UK
MRSA	Bacteria	43,24	160,00	376,47	512,00	800,00	1 280,00		UV-Light.co.UK
Mycobacterium tuberculosis	Bacteria	83,78	310,00	729,41	992,00	1 550,00	2 480,00		UV-Light.co.UK
Neisseria catarrhalis	Bacteria	59,46	220,00	517,65	704,00	1 100,00	1 760,00		UV-Light.co.UK
Phytomonas tumefaciens	Bacteria	59,46	220,00	517,65	704,00	1 100,00	1 760,00		UV-Light.co.UK
Proteus vulgaris	Bacteria	40,54	150,00	352,94	480,00	750,00	1 200,00		UV-Light.co.UK
Pseudomonas aeruginosa	Bacteria	74,32	275,00	647,06	880,00	1 375,00	2 200,00		UV-Light.co.UK
Pseudomonas fluorescens	Bacteria	47,30	175,00	411,76	560,00	875,00	1 400,00		UV-Light.co.UK
Pseudomonas stutzeri	Bacteria	777,03	2 875,00	6 764,71	9 200,00	14 375,00	23 000,00		Joux et al. 1999
Salmonella typhi	Bacteria	21,62	80,00	188,24	256,00	400,00	640,00	Measurement by Grizzly	
Salmonella paratyphi – Enteric fever	Bacteria	43,24	160,00	376,47	512,00	800,00	1 280,00	UV-Light.co.UK	
Salmonella anatum	Bacteria	50,68	187,50	441,18	600,00	937,50	1 500,00	Measurement by Grizzly	
Salmonella anatum (from human feces)	Bacteria	50,68	187,50	441,18	600,00	937,50	1 500,00	Tosa and Hirata 1998	
Salmonella derby (from human feces)	Bacteria	25,34	93,75	220,59	300,00	468,75	750,00	Tosa and Hirata 1998	
Salmonella enteritidis	Bacteria	30,41	112,50	264,71	360,00	562,50	900,00	Measurement by Grizzly	
Salmonella enteritidis	Bacteria	54,05	200,00	470,59	640,00	1 000,00	1 600,00	UV-Light.co.UK	
Salmonella infantis (from human feces)	Bacteria	20,27	75,00	176,47	240,00	375,00	600,00	Tosa and Hirata 1998	
Salmonella typhimurium	Bacteria	16,89	62,50	147,06	200,00	312,50	500,00	Measurement by Grizzly	
Salmonella typhimurium	Bacteria	108,11	400,00	941,18	1 280,00	2 000,00	3 200,00	UV-Light.co.UK	
Salmonella typhosa – Typhoid fever	Bacteria	29,05	107,50	252,94	344,00	537,50	860,00	UV-Light.co.UK	
Sarcina lutea	Bacteria	266,22	985,00	2 317,65	3 152,00	4 925,00	7 880,00	UV-Light.co.UK	
Serratia marcescens	Bacteria	32,70	121,00	284,71	387,20	605,00	968,00	UV-Light.co.UK	
Shigella dysenteriae	Bacteria	6,76	25,00	58,82	80,00	125,00	200,00	Measurement by Grizzly	

Coxsackievirus B5	Virus	70,95	262,50	617,65	840,00	1 312,50	2 100,00	N e e d e d t i m e i n s e c o n d s	Measurement by Grizzly	
Hepatitis A	Virus	50,68	187,50	441,18	600,00	937,50	1 500,00		Measurement by Grizzly	
Hepatitis A, HM175	Virus	74,32	275,00	647,06	880,00	1 375,00	2 200,00		Measurement by Grizzly	
Influeza	Virus	22,97	85,00	200,00	272,00	425,00	680,00		Measurement by Grizzly	
Poliovirus Type 1	Virus	77,70	287,50	676,47	920,00	1 437,50	2 300,00		Measurement by Grizzly	
Rotavirus SA11	Virus	77,70	287,50	676,47	920,00	1 437,50	2 300,00		Measurement by Grizzly	
Adenovirus type 15 / A549 cell line (ATCC CCL	Virus/Host	557,43	2 062,50	4 852,94	6 600,00	10 312,50	16 500,00		Thompson et al. 2003	
Adenovirus type 2 / PLC / PRF / 5	Virus/Host	540,54	2 000,00	4 705,88	6 400,00	10 000,00	16 000,00		Gerba et al. 2002	
Bacteriophage – E. Coli / -----	Virus/Host	351,35	1 300,00	3 058,82	4 160,00	6 500,00	10 400,00		UV-Light.co.UK	
Calicivirus canine / MDCK cell line	Virus/Host	101,35	375,00	882,35	1 200,00	1 875,00	3 000,00		Husman et al. 2004	
Calicivirus feline / CRFK cell line	Virus/Host	101,35	375,00	882,35	1 200,00	1 875,00	3 000,00		Thurston-Enriquez et al. 2003	
Coxsackievirus B3 / BGM cell line	Virus/Host	109,80	406,25	955,88	1 300,00	2 031,25	3 250,00		Gerba et al. 2002	
Coxsackievirus B5 / BGM cell line	Virus/Host	121,62	450,00	1 058,82	1 440,00	2 250,00	3 600,00		Gerba et al. 2002	
Echovirus I / BGM cell line	Virus/Host	111,49	412,50	970,59	1 320,00	2 062,50	3 300,00		Gerba et al. 2002	
Echovirus II / BGM cell line	Virus/Host	94,59	350,00	823,53	1 120,00	1 750,00	2 800,00		Gerba et al. 2002	
Hepatitis A HM175 / FRhK-4 cell	Virus/Host	100,00	370,00	870,59	1 184,00	1 850,00	2 960,00		Wilson et al. 1992	
Infectious Hepatitis / -----	Virus/Host	783,78	2 900,00	6 823,53	9 280,00	14 500,00	23 200,00		UV-Light.co.UK	
Influenza / -----	Virus/Host	459,46	1 700,00	4 000,00	5 440,00	8 500,00	13 600,00		UV-Light.co.UK	
MS2 (Phage) / E. coli	Virus/Host	337,84	1 250,00	2 941,18	4 000,00	6 250,00	10 000,00		Thompson et al. 2003	
Norovirus / -----	Virus/Host	87,84	325,00	764,71	1 040,00	1 625,00	2 600,00		Lee et al. 2008	
Parvovirus / -----	Virus/Host	15,54	57,50	135,29	184,00	287,50	460,00		Cornelis et al. 1982	
PHI X 174 (Phage) / E. coli WG 5	Virus/Host	33,78	125,00	294,12	400,00	625,00	1 000,00		Sommer et al. 2001	
Poliovirus – Poliomyelitis / -----	Virus/Host	425,68	1 575,00	3 705,88	5 040,00	7 875,00	12 600,00		UV-Light.co.UK	
Poliovirus 1 / CaCo2 cell-line (ATCC HTB37)	Virus/Host	125,00	462,50	1 088,24	1 480,00	2 312,50	3 700,00		Thompson et al. 2003	
PRD-1 (Phage) / S. typhimurium	Virus/Host	101,69	376,25	885,29	1 204,00	1 881,25	3 010,00		Meng and Gerba 1996	
Reovirus Type 1 Lang strain / N/A	Virus/Host	121,62	450,00	1 058,82	1 440,00	2 250,00	3 600,00		Harris et al. 1987	
Reovirus-3 / Mouse L-60	Virus/Host	75,68	280,00	658,82	896,00	1 400,00	2 240,00		Rauth 1965	
Rotavirus / MA104 cells	Virus/Host	675,68	2 500,00	5 882,35	8 000,00	12 500,00	20 000,00	Caballero et al. 2004		
Rotavirus SA-11 / MA-104 cell	Virus/Host	121,62	450,00	1 058,82	1 440,00	2 250,00	3 600,00	Wilson et al. 1992		
SARS-CoV-2 / N/A 99%	Virus/Host	13,51	50,00	117,65	160,00	250,00	400,00	Measurement by Grizzly		
SARS-CoV-2 / N/A 99,9999%	Virus/Host	74,32	275,00	647,06	880,00	1 375,00	2 200,00	Boston University. 2020		
Staphylococcus aureus phage A / Staphylococ	Virus/Host	121,62	450,00	1 058,82	1 440,00	2 250,00	3 600,00	Sommer et al. 1989		
Tobacco mosaic / N/A	Virus/Host	1 486,49	5 500,00	12 941,18	17 600,00	27 500,00	44 000,00	Light Sources Inc. 2014		
Brewers yeast	Yeasts	44,59	165,00	388,24	528,00	825,00	1 320,00	UV-Light.co.UK		
Candida auris	Yeasts	648,65	2 400,00	5 647,06	7 680,00	12 000,00	19 200,00	Martin, W. G. Lindsley, and B. J. Green. 2020		
Common yeast cake	Yeasts	81,08	300,00	705,88	960,00	1 500,00	2 400,00	UV-Light.co.UK		
Saccharomyces carevisiae	Yeasts	81,08	300,00	705,88	960,00	1 500,00	2 400,00	UV-Light.co.UK		
Saccharomyces ellipsoideus	Yeasts	81,08	300,00	705,88	960,00	1 500,00	2 400,00	UV-Light.co.UK		
Saccharomyces spores	Yeasts	108,11	400,00	941,18	1 280,00	2 000,00	3 200,00	UV-Light.co.UK		

5 minutes
10 minutes
15 minutes
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25+ minutes