

Normal Distribution Service Levels and Unit Normal Loss Function

<u>Z</u>	<u>S.L.</u>	<u>E(z)</u>	<u>Z</u>	<u>S.L.</u>	<u>E(z)</u>	<u>Z</u>	<u>S.L.</u>	<u>E(z)</u>
-2.40	0.0082	2.4030	0.00	0.5000	0.3990	2.44	0.9927	0.0020
-2.36	0.0091	2.3630	0.04	0.5160	0.3790	2.48	0.9934	0.0020
-2.32	0.0102	2.3230	0.08	0.5319	0.3600	2.52	0.9941	0.0020
-2.28	0.0113	2.2840	0.12	0.5478	0.3420	2.56	0.9948	0.0020
-2.24	0.0125	2.2440	0.16	0.5636	0.3240	2.60	0.9953	0.0010
-2.20	0.0139	2.2050	0.20	0.5793	0.3070	2.64	0.9959	0.0010
-2.16	0.0154	2.1650	0.24	0.5948	0.2900	2.68	0.9963	0.0010
-2.12	0.0170	2.1260	0.28	0.6103	0.2750	2.72	0.9967	0.0010
-2.08	0.0188	2.0870	0.32	0.6255	0.2560	2.76	0.9971	0.0010
-2.04	0.0207	2.0480	0.36	0.6406	0.2370	2.80	0.9974	0.0008
-2.00	0.0228	2.0080	0.40	0.6554	0.2300	2.84	0.9977	0.0007
-1.96	0.0250	1.9690	0.44	0.6700	0.2170	2.88	0.9980	0.0006
-1.92	0.0274	1.9300	0.48	0.6844	0.2040	2.92	0.9982	0.0005
-1.88	0.0301	1.8920	0.52	0.6985	0.1920	2.96	0.9985	0.0004
-1.84	0.0329	1.8530	0.56	0.7123	0.1800	3.00	0.9987	0.0004
-1.80	0.0359	1.8140	0.60	0.7257	0.1690	3.04	0.9988	0.0003
-1.76	0.0392	1.7760	0.64	0.7389	0.1580	3.08	0.9990	0.0003
-1.72	0.0427	1.7370	0.68	0.7517	0.1480	3.12	0.9991	0.0002
-1.68	0.0465	1.6990	0.72	0.7642	0.1380	3.16	0.9992	0.0002
-1.64	0.0505	1.6610	0.76	0.7764	0.1290	3.20	0.9993	0.0002
-1.60	0.0548	1.6230	0.80	0.7881	0.1200	3.24	0.9994	0.0001
-1.56	0.0594	1.5860	0.84	0.7995	0.1120	3.28	0.9995	0.0001
-1.52	0.0643	1.5480	0.88	0.8106	0.1040	3.32	0.9995	0.0001
-1.48	0.0694	1.5110	0.92	0.8212	0.0970	3.36	0.9996	0.0001
-1.44	0.0749	1.4740	0.96	0.8315	0.0890	3.40	0.9997	0.0001
-1.40	0.0808	1.4370	1.00	0.8413	0.0830			
-1.36	0.0869	1.4000	1.04	0.8508	0.0770			
-1.32	0.0934	1.3640	1.08	0.8599	0.0710			
-1.28	0.1003	1.3280	1.12	0.8686	0.0660			
-1.24	0.1075	1.2920	1.16	0.8770	0.0610			
-1.20	0.1151	1.2560	1.20	0.8849	0.0560			
-1.16	0.1230	1.2210	1.24	0.8925	0.0520			
-1.12	0.1314	1.1860	1.28	0.8997	0.0480			
-1.08	0.1401	1.1510	1.32	0.9066	0.0440			
-1.04	0.1492	1.1170	1.36	0.9131	0.0400			
-1.00	0.1587	1.0830	1.40	0.9192	0.0370			
-0.96	0.1685	1.0490	1.44	0.9251	0.0340			
-0.92	0.1788	1.0170	1.48	0.9306	0.0310			
-0.88	0.1894	0.9840	1.52	0.9357	0.0280			
-0.84	0.2005	0.9520	1.56	0.9406	0.0260			
-0.80	0.2119	0.9200	1.60	0.9452	0.0230			
-0.76	0.2236	0.8890	1.64	0.9495	0.0210			
-0.72	0.2358	0.8580	1.68	0.9535	0.0190			
-0.68	0.2483	0.8280	1.72	0.9573	0.0170			
-0.64	0.2611	0.7980	1.76	0.9608	0.0160			
-0.60	0.2743	0.7690	1.80	0.9641	0.0140			
-0.56	0.2877	0.7400	1.84	0.9671	0.0130			
-0.52	0.3015	0.7120	1.88	0.9699	0.0120			
-0.48	0.3156	0.6840	1.92	0.9726	0.0100			
-0.44	0.3300	0.6570	1.96	0.9750	0.0090			
-0.40	0.3446	0.6300	2.00	0.9772	0.0080			
-0.36	0.3594	0.5970	2.04	0.9793	0.0080			
-0.32	0.3745	0.5760	2.08	0.9812	0.0070			
-0.28	0.3897	0.5550	2.12	0.9830	0.0060			
-0.24	0.4052	0.5300	2.16	0.9846	0.0050			
-0.20	0.4207	0.5070	2.20	0.9861	0.0050			
-0.16	0.4364	0.4840	2.24	0.9875	0.0040			
-0.12	0.4522	0.4620	2.28	0.9887	0.0040			
-0.08	0.4681	0.4400	2.32	0.9898	0.0030			
-0.04	0.4840	0.4190	2.36	0.9909	0.0030			
			2.40	0.9918	0.0030			

Expected Shortage per cycle:
 $E(n) = E(z) * s.d. dLT$

Expected Shortage per year:
 $E(N) = E(n) * D/Q$