## **Appendix**

Appendix	1: Resistance	Table of A	mbient Temp	era	ture Sens	or for Indoor	ar	nd Outdooi	r Units(15K)
Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)
-2.2	138.1	68	18.75		138.2	3.848		208.4	1.071
-0.4	128.6	69.8	17.93		140	3.711		210.2	1.039
1.4	121.6	71.6	17.14		141.8	3.579		212	1.009
3.2	115	73.4	16.39		143.6	3.454		213.8	0.98
5	108.7	75.2	15.68		145.4	3.333		215.6	0.952
6.8	102.9	77	15		147.2	3.217		217.4	0.925
8.6	97.4	78.8	14.36		149	3.105		219.2	0.898
10.4	92.22	80.6	13.74		150.8	2.998		221	0.873
12.2	87.35	82.4	13.16		152.6	2.896		222.8	0.848
14	82.75	84.2	12.6		154.4	2.797		224.6	0.825
15.8	78.43	86	12.07		156.2	2.702		226.4	0.802
17.6	74.35	87.8	11.57		158	2.611		228.2	0.779
19.4	70.5	89.6	11.09		159.8	2.523		230	0.758
21.2	66.88	91.4	10.63		161.6	2.439		231.8	0.737
23	63.46	93.2	10.2		163.4	2.358		233.6	0.717
24.8	60.23	95	9.779		165.2	2.28		235.4	0.697
26.6	57.18	96.8	9.382		167	2.206		237.2	0.678
28.4	54.31	98.6	9.003		168.8	2.133		239	0.66
30.2	51.59	100.4	8.642		170.6	2.064		240.8	0.642
32	49.02	102.2	8.297		172.4	1.997		242.6	0.625
33.8	46.6	104	7.967		174.2	1.933		244.4	0.608
35.6	44.31	105.8	7.653		176	1.871		246.2	0.592
37.4	42.14	107.6	7.352		177.8	1.811		248	0.577
39.2	40.09	109.4	7.065		179.6	1.754		249.8	0.561
41	38.15	111.2	6.791		181.4	1.699		251.6	0.547
42.8	36.32	113	6.529		183.2	1.645		253.4	0.532
44.6	34.58	114.8	6.278		185	1.594		255.2	0.519
46.4	32.94	116.6	6.038		186.8	1.544		257	0.505
48.2	31.38	118.4	5.809		188.6	1.497		258.8	0.492
50	29.9	120.2	5.589		190.4	1.451		260.6	0.48
51.8	28.51	122	5.379		192.2	1.408		262.4	0.467
53.6	27.18	123.8	5.197		194	1.363		264.2	0.456
55.4	25.92	125.6	4.986		195.8	1.322		266	0.444
57.2	24.73	127.4	4.802		197.6	1.282		267.8	0.433
59	23.6	129.2	4.625		199.4	1.244		269.6	0.422
60.8	22.53	131	4.456		201.2	1.207		271.4	0.412
62.6	21.51	132.8	4.294		203	1.171		273.2	0.401
64.4	20.54	134.6	4.139		204.8	1.136		275	0.391
66.2	19.63	136.4	3.99		206.6	1.103		276.8	0.382

Appei	ndix 2: Resist	ance Table	nce Table of Outdoor ar			Tube Temperature Sensors(20K)			
Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)	
-2.2	181.4	68	25.01		138.2	5.13	208.4	1.427	
-0.4	171.4	69.8	23.9		140	4.948	210.2	1.386	
1.4	162.1	71.6	22.85		141.8	4.773	212	1.346	
3.2	153.3	73.4	21.85		143.6	4.605	213.8	1.307	
5	145	75.2	20.9		145.4	4.443	215.6	1.269	
6.8	137.2	77	20		147.2	4.289	217.4	1.233	
8.6	129.9	78.8	19.14		149	4.14	219.2	1.198	
10.4	123	80.6	18.13		150.8	3.998	221	1.164	
12.2	116.5	82.4	17.55		152.6	3.861	222.8	1.131	
14	110.3	84.2	16.8		154.4	3.729	224.6	1.099	
15.8	104.6	86	16.1		156.2	3.603	226.4	1.069	
17.6	99.13	87.8	15.43		158	3.481	228.2	1.039	
19.4	94	89.6	14.79		159.8	3.364	230	1.01	
21.2	89.17	91.4	14.18		161.6	3.252	231.8	0.983	
23	84.61	93.2	13.59		163.4	3.144	233.6	0.956	
24.8	80.31	95	13.04		165.2	3.04	235.4	0.93	
26.6	76.24	96.8	12.51		167	2.94	237.2	0.904	
28.4	72.41	98.6	12		168.8	2.844	239	0.88	
30.2	68.79	100.4	11.52		170.6	2.752	240.8	0.856	
32	65.37	102.2	11.06		172.4	2.663	242.6	0.833	
33.8	62.13	104	10.62		174.2	2.577	244.4	0.811	
35.6	59.08	105.8	10.2		176	2.495	246.2	0.77	
37.4	56.19	107.6	9.803		177.8	2.415	248	0.769	
39.2	53.46	109.4	9.42		179.6	2.339	249.8	0.746	
41	50.87	111.2	9.054		181.4	2.265	251.6	0.729	
42.8	48.42	113	8.705		183.2	2.194	253.4	0.71	
44.6	46.11	114.8	8.37		185	2.125	255.2	0.692	
46.4	43.92	116.6	8.051		186.8	2.059	257	0.674	
48.2	41.84	118.4	7.745		188.6	1.996	258.8	0.658	
50	39.87	120.2	7.453		190.4	1.934	260.6	0.64	
51.8	38.01	122	7.173		192.2	1.875	262.4	0.623	
53.6	36.24	123.8	6.905		194	1.818	264.2	0.607	
55.4	34.57	125.6	6.648		195.8	1.736	266	0.592	
57.2	32.98	127.4	6.403		197.6	1.71	267.8	0.577	
59	31.47	129.2	6.167		199.4	1.658	269.6	0.563	
60.8	30.04	131	5.942		201.2	1.609	271.4	0.549	
62.6	28.68	132.8	5.726		203	1.561	273.2	0.535	
64.4	27.39	134.6	5.519		204.8	1.515	275	0.521	
66.2	26.17	136.4	5.32		206.6	1.47	276.8	0.509	

Appendix 3: Resistance Table of Outdoor Discharge Temperature Sensor(50K)								
Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)	
-20.2	853.5	50	98	120.2	18.34	190.4	4.754	
-18.4	799.8	51.8	93.42	122	17.65	192.2	4.609	
-16.6	750	53.6	89.07	123.8	16.99	194	4.469	
-14.8	703.8	55.4	84.95	125.6	16.36	195.8	4.334	
-13	660.8	57.2	81.05	127.4	15.75	197.6	4.204	
-11.2	620.8	59	77.35	129.2	15.17	199.4	4.079	
-9.4	580.6	60.8	73.83	131	14.62	201.2	3.958	
-7.6	548.9	62.6	70.5	132.8	14.09	203	3.841	
-5.8	516.6	64.4	67.34	134.6	13.58	204.8	3.728	
-4	486.5	66.2	64.33	136.4	13.09	206.6	3.619	
-2.2	458.3	68	61.48	138.2	12.62	208.4	3.514	
-0.4	432	69.8	58.77	140	12.17	210.2	3.413	
1.4	407.4	71.6	56.19	141.8	11.74	212	3.315	
3.2	384.5	73.4	53.74	143.6	11.32	213.8	3.22	
5	362.9	75.2	51.41	145.4	10.93	215.6	3.129	
6.8	342.8	77	49.19	147.2	10.54	217.4	3.04	
8.6	323.9	78.8	47.08	149	10.18	219.2	2.955	
10.4	306.2	80.6	45.07	150.8	9.827	221	2.872	
12.2	289.6	82.4	43.16	152.6	9.489	222.8	2.792	
14	274	84.2	41.34	154.4	9.165	224.6	2.715	
15.8	259.3	86	39.61	156.2	8.854	226.4	2.64	
17.6	245.6	87.8	37.96	158	8.555	228.2	2.568	
19.4	232.6	89.6	36.38	159.8	8.268	230	2.498	
21.2	220.5	91.4	34.88	161.6	7.991	231.8	2.431	
23	209	93.2	33.45	163.4	7.726	233.6	2.365	
24.8	198.3	95	32.09	165.2	7.47	235.4	2.302	
26.6	199.1	96.8	30.79	167	7.224	237.2	2.241	
28.4	178.5	98.6	29.54	168.8	6.998	239	2.182	
30.2	169.5	100.4	28.36	170.6	6.761	240.8	2.124	
32	161	102.2	27.23	172.4	6.542	242.6	2.069	
33.8	153	104	26.15	174.2	6.331	244.4	2.015	
35.6	145.4	105.8	25.11	176	6.129	246.2	1.963	
37.4	138.3	107.6	24.13	177.8	5.933	248	1.912	
39.2	131.5	109.4	23.19	179.6	5.746	249.8	1.863	
41	125.1	111.2	22.29	181.4	5.565	251.6	1.816	
42.8	119.1	113	21.43	183.2	5.39	253.4	1.77	
44.6	113.4	114.8	20.6	185	5.222	255.2	1.725	
46.4	108	116.6	19.81	186.8	5.06	257	1.682	
48.2	102.8	118.4	19.06	188.6	4.904	258.8	1.64	

Note: The information above is for reference only.