



Photometric Test Report

Relevant Standards

- IES LM-79-2008
- ANSI C82.77-2002
- UL1598-2008/ UL1993-2012

Prepared For

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Catalog Number

SCLH160-UM-24-DD

Project Number

4788086873

Report Number

4788086873-9

Test Date

2017-09-13~ 2017-09-15

Issue Date

2017-10-10

Prepared By

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Approved By

Duff Yang

The results contained in this report pertain only to the tested sample.

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1.0 Test Summary

DLC Technical Requirements v4.2

Requirement Category	Test Method	Requirements	Test value	Results (Fail/Pass)
Minimum Light Output (lm)	IES LM-79-2008	10000	22609.40	Pass
Minimum Lamp Output (lm)	IES LM-79-2008	N/A	N/A	N/A
Spacing Criteria (0-180°)	IES LM-79-2008	N/A	N/A	N/A
Spacing Criteria (90-270°)	IES LM-79-2008	N/A	N/A	N/A
Zonal Lumen Requirement (20°-50°)	IES LM-79-2008	≥30%	52.2%	Pass
Zonal Lumen Requirement 2	IES LM-79-2008	N/A	N/A	N/A
Minimum Luminaire Efficacy (lm/W)	IES LM-79-2008	130	144.18	Pass
Minimum Lamp Efficacy (lm/ft)	IES LM-79-2008	N/A	N/A	N/A
Allowable CCTs* (K)	IES LM-79-2008	≤5700	5270	Pass
Minimum CRI	IES LM-79-2008 CIE 13.3-1995	≥70	84.28	Pass
L70 Lumen maintenance (hours)	IES LM-80-2015 IES TM-21-2011	≥50000	≥50000	Pass
L90 Lumen maintenance (hours)	IES LM-80-2015 IES TM-21-2011	≥36000	≥36000	Pass
Power Factor	ANSI C82.77-2002	≥0.9	0.9956	Pass
Total Harmonic Distortion (A%)	ANSI C82.77-2002	≤20%	5.7%	Pass
In-Situ Temperature Measurement Test for LED (°C)	UL1598-2008/ UL1993-2012	N/A	N/A	N/A
In-Situ Temperature Measurement Test for Driver (°C)	UL1598-2008/ UL1993-2012	N/A	N/A	N/A
Minimum Luminaire Warranty (years)	N/A	5	5	Pass

*Defined by ANSI C78.377-2011‡

SCLH160-UM-24-DD

Doc No: 10-IC-F0854

Issue: 4.0

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2.0 Test List

Test Item	Test	Test Date	Model Number	Tests Conducted By
1	Integrating Sphere Test for the Lower CCT	2017-09-15	SCLH160-UM-24-DD	Wu Elvis
2	Goniophotometer Test	2017-09-13	SCLH160-UM-24-DD	Wu Elvis
3	THD and PF Test	2017-09-15	SCLH160-UM-24-DD	Wu Elvis

Remark (if any)

1. UL test equipment information is recorded on Meter Use in UL's Aurora database.



3.0 Production Description

Luminaire Description: High-Bay Luminaires

Model Number: SLH160-UM-24-DD

Rated Voltage: 120~277V

Frequency: 50/60 Hz

LED Package: SPMWHT541M

Family Model and Variation: SCLH160-UM-24-YD SCLH160-UM-24-DD SCLH160-UM-24-ND

Photos of Luminaire Characteristics





4.0 LM-79 Measurement and Test Results

Model No.	SCLH160-UM-24-DD	Sample ID.	1149511-3
Operate time (Min.)	90	Stabilization time (Min.)	45

Test Method

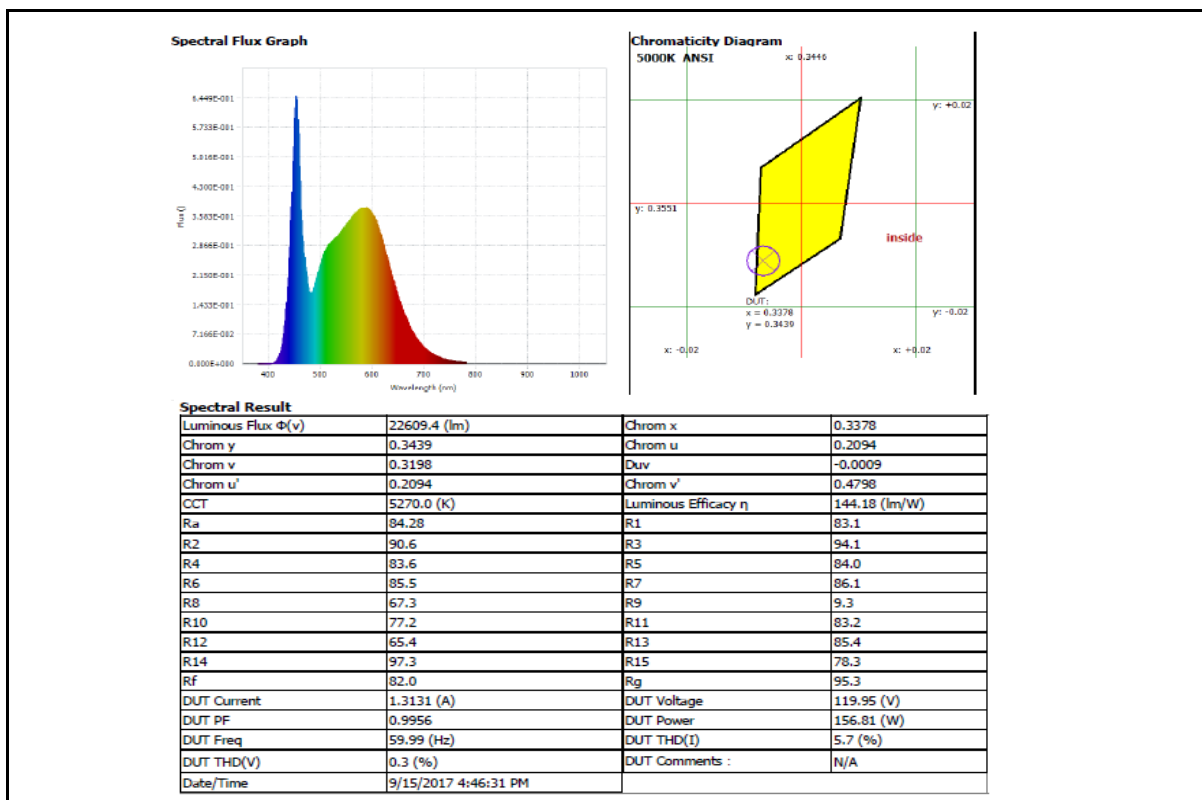
1. The sample was tested according to the IES LM-79-2008.
 2. Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25° C ± 1° C. The reference standard lamp is rated current 2.6A omni-directional Incandescent lamp and was calibrated by china seprei laboratory.
 3. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. Coating reflectance of the integrating sphere was 90% to 98%. Photometric measurement conditions was using 4π geometry. The self-absorption factor is applied in the final test result. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Integrating Sphere Test Conditions

Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation
25.2	119.95	60	1.3131	156.81	0.9956	Horizontal

Test Results

CCT (K)	CRI (Ra)	Duv	Luminous Flux (lm)	Luminous Efficacy (lm/W)
5270	84.28	-0.0009	22609.4	144.18





5.0 LM-79 Measurement and Test Results

Model No.	SCLH160-UM-24-DD	Sample ID.	1149511-3
Operate time (Min.)	90	Stabilization time (Min.)	45

Test Method

1.The sample was tested according to the IES LM-79-2008.
2.Photometric paramters were measured using a type C goniophotometer and software.
3.The ambient temperature shall be maintained at 25° C ± 1° C, measured at a point not more than 1 m from the sample and at the same height as the sample.The reference standard lamp is rated current 3.865A omni-directional Incandescent lamp and was calibrated by china seprei laboratory.
4.The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 0.5° vertical intervals and 22.5° horizontal intervals..Photometric distance was more than five times of the largest dimension of the test SSL product.

Goniophotometer Test Conditions

Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation
25.8	120.02	60	1.3152	157.3399	0.9967	Horizontal

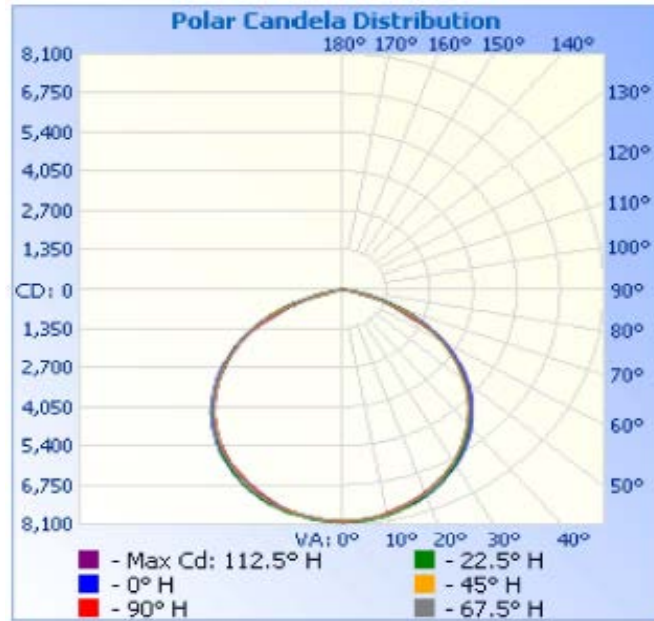
Test Result

Flux (lm)	Zonal Lumen Requirement (20°-50°)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	
22393.60	> 30%	149.9	155.2	114.1	115.4	142.33
SC						
20°-50°						
52.2%						

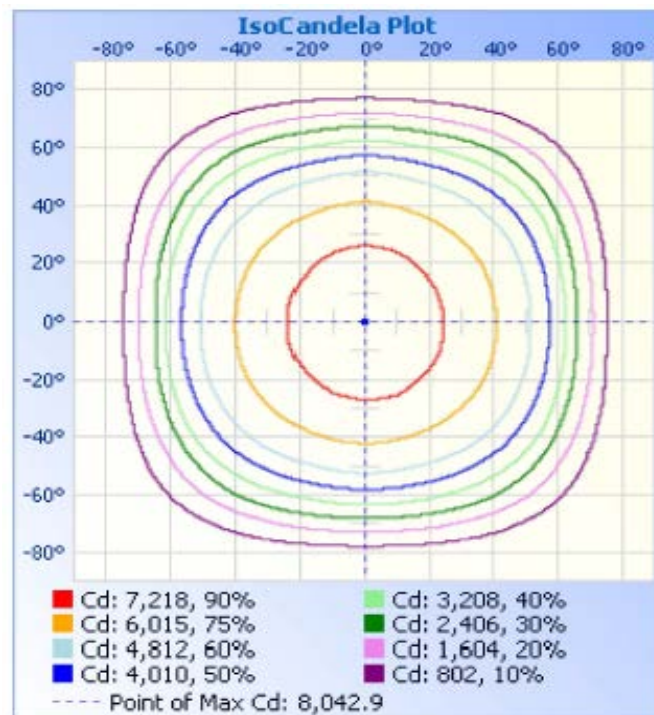


5.2 Goniophotometer Test (Cont'd)

Light Distribution Curve



IsoCandela Plot





5.2 Goniophotometer Test (Cont'd)

Zonal Lumen Summary

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	6,273.4	28%
0-40	10,357.6	46.3%
0-60	18,482.9	82.5%
60-90	3,910.7	17.5%
70-100	1,233.6	5.5%
90-120	0	0%
0-90	22,393.6	100%
90-180	0	0%
0-180	22,393.6	100%

Lumens Per Zone

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	191.0	0.9%	90-95	0	0%
5-10	566.9	2.5%	95-100	0	0%
10-15	925.2	4.1%	100-105	0	0%
15-20	1,254.6	5.6%	105-110	0	0%
20-25	1,545.8	6.9%	110-115	0	0%
25-30	1,789.9	8.0%	115-120	0	0%
30-35	1,980.6	8.8%	120-125	0	0%
35-40	2,103.6	9.4%	125-130	0	0%
40-45	2,155.9	9.6%	130-135	0	0%
45-50	2,129.2	9.5%	135-140	0	0%
50-55	2,018.3	9.0%	140-145	0	0%
55-60	1,822.0	8.1%	145-150	0	0%
60-65	1,536.9	6.9%	150-155	0	0%
65-70	1,140.2	5.1%	155-160	0	0%
70-75	746.8	3.3%	160-165	0	0%
75-80	355.6	1.6%	165-170	0	0%
80-85	113.2	0.5%	170-175	0	0%
85-90	18.0	0.1%	175-180	0	0%



5.2 Goniophotometer Test (Cont'd)
Intensity Data(cd)

Candela Table - Type C																	
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	8018	8015	7980	8012	7978	8043	8000	8017	8018	8015	7980	8012	7978	8043	8000	8017	8018
1	7996	8019	7985	8003	7988	8024	8004	8001	8002	8034	7981	7999	7990	8013	7991	7996	7996
2	8001	8030	7965	7988	8005	8016	8007	8006	8010	8024	7994	8010	7969	8007	7980	8003	8001
3	7993	8017	7975	7985	7978	8007	8000	8008	7992	8010	7973	8002	7990	7987	7988	8002	7993
4	7972	8001	7970	7983	7971	7987	7981	7971	7976	8008	7969	7982	7966	7973	7979	7989	7972
5	7957	8008	7944	7957	7941	7983	7972	7973	7973	8001	7952	7958	7967	7976	7955	7974	7957
6	7963	7987	7944	7952	7926	7956	7952	7958	7939	7993	7942	7961	7963	7967	7938	7950	7963
7	7949	7970	7910	7927	7925	7931	7930	7955	7914	7980	7930	7944	7937	7967	7938	7941	7949
8	7924	7958	7909	7933	7886	7913	7926	7899	7929	7953	7892	7922	7904	7922	7923	7914	7924
9	7915	7947	7881	7876	7864	7898	7884	7928	7886	7935	7899	7900	7911	7897	7900	7888	7915
10	7881	7917	7860	7882	7825	7858	7875	7904	7882	7920	7888	7872	7863	7895	7877	7866	7881
11	7870	7887	7825	7822	7800	7841	7837	7870	7872	7896	7842	7855	7843	7845	7839	7846	7870
12	7839	7860	7813	7795	7757	7810	7803	7844	7832	7877	7820	7844	7797	7799	7834	7838	7839
13	7815	7826	7770	7746	7710	7763	7799	7835	7826	7846	7794	7805	7776	7756	7804	7816	7815
14	7764	7795	7731	7710	7683	7738	7747	7787	7789	7811	7773	7740	7737	7730	7743	7776	7764
15	7753	7760	7684	7681	7657	7706	7697	7754	7737	7774	7726	7726	7683	7684	7716	7742	7753
16	7713	7729	7652	7651	7615	7678	7679	7732	7724	7751	7704	7666	7621	7656	7683	7696	7713
17	7694	7685	7598	7604	7570	7616	7622	7689	7689	7721	7638	7618	7559	7583	7639	7666	7694
18	7660	7658	7567	7555	7529	7570	7604	7643	7647	7680	7600	7564	7529	7552	7608	7627	7660
19	7607	7623	7527	7521	7488	7519	7548	7583	7609	7644	7556	7520	7464	7501	7536	7599	7607
20	7582	7564	7472	7453	7428	7476	7510	7556	7557	7571	7496	7481	7416	7448	7483	7536	7582
21	7519	7501	7419	7418	7398	7411	7457	7541	7504	7534	7453	7421	7364	7413	7427	7475	7519
22	7481	7463	7378	7369	7345	7373	7392	7463	7473	7496	7392	7366	7306	7344	7372	7433	7481
23	7422	7392	7308	7300	7285	7312	7344	7426	7428	7434	7342	7328	7285	7293	7309	7386	7422
24	7374	7354	7266	7260	7245	7265	7283	7362	7381	7378	7281	7249	7212	7235	7259	7332	7374
25	7326	7290	7211	7181	7172	7194	7219	7302	7323	7329	7206	7226	7143	7184	7174	7271	7326
26	7245	7227	7130	7132	7131	7142	7156	7227	7242	7257	7136	7156	7068	7130	7107	7219	7245
27	7183	7168	7075	7068	7065	7083	7083	7189	7178	7200	7086	7107	7037	7067	7056	7146	7183
28	7115	7088	6996	7013	7009	7028	7032	7125	7132	7128	7006	7040	6982	6997	6971	7074	7115
29	7070	7034	6924	6956	6945	6951	6961	7040	7046	7052	6952	6976	6917	6921	6914	7014	7070
30	7000	6970	6874	6890	6879	6890	6885	6979	6987	6983	6893	6891	6867	6886	6844	6939	7000
31	6952	6888	6792	6795	6793	6844	6814	6895	6917	6919	6813	6826	6781	6803	6752	6876	6952
32	6865	6814	6726	6728	6723	6749	6744	6832	6850	6855	6759	6763	6724	6738	6676	6791	6865
33	6783	6724	6625	6657	6663	6698	6673	6770	6783	6759	6674	6686	6641	6672	6632	6709	6783
34	6702	6665	6555	6566	6594	6606	6570	6682	6715	6692	6607	6612	6565	6580	6550	6623	6702
35	6632	6548	6487	6494	6484	6495	6500	6615	6611	6585	6503	6541	6500	6484	6477	6541	6632
36	6550	6459	6373	6393	6399	6446	6407	6516	6547	6506	6432	6443	6417	6420	6374	6431	6550
37	6462	6398	6290	6305	6304	6343	6340	6424	6439	6395	6358	6397	6335	6332	6264	6350	6462
38	6370	6284	6198	6211	6224	6247	6226	6328	6354	6317	6275	6284	6242	6247	6182	6245	6370
39	6282	6202	6124	6142	6129	6159	6128	6211	6265	6227	6169	6190	6140	6158	6101	6169	6282
40	6179	6084	6030	6033	6038	6055	6067	6144	6196	6118	6084	6084	6071	6049	6021	6047	6179
41	6080	5994	5930	5919	5931	5962	5948	6048	6077	6017	5970	6017	5951	5963	5908	5943	6080
42	5984	5883	5826	5847	5831	5869	5842	5917	5967	5917	5894	5899	5873	5881	5819	5842	5984
43	5866	5779	5728	5744	5742	5768	5738	5814	5893	5824	5778	5796	5774	5773	5702	5734	5866
44	5761	5667	5632	5630	5662	5668	5665	5700	5786	5710	5672	5693	5682	5647	5590	5626	5761
45	5662	5542	5501	5529	5546	5574	5544	5613	5664	5583	5574	5588	5564	5558	5464	5508	5662
46	5568	5449	5386	5417	5432	5447	5402	5480	5540	5500	5462	5486	5466	5426	5380	5403	5568
47	5473	5319	5264	5316	5309	5332	5304	5361	5428	5387	5351	5344	5343	5314	5242	5291	5473
48	5321	5206	5147	5198	5199	5204	5172	5238	5307	5257	5234	5250	5217	5204	5125	5156	5321
49	5210	5082	5026	5091	5098	5090	5044	5110	5208	5114	5112	5136	5095	5087	5030	5022	5210
50	5092	4978	4895	4942	4960	4969	4933	4987	5070	5004	4977	5007	4961	4962	4889	4896	5092
51	4956	4813	4772	4815	4836	4825	4822	4865	4951	4853	4878	4891	4872	4819	4780	4782	4956
52	4834	4685	4646	4685	4707	4716	4680	4729	4832	4737	4738	4740	4712	4696	4659	4647	4834
53	4703	4562	4516	4542	4576	4564	4550	4594	4696	4605	4606	4614	4567	4564	4523	4524	4703
54	4553	4410	4414	4417	4422	4436	4425	4463	4556	4469	4483	4476	4441	4426	4402	4378	4553



55	4412	4256	4250	4273	4294	4291	4296	4310	4421	4328	4340	4332	4309	4276	4247	4239	4412
56	4266	4123	4114	4133	4146	4130	4146	4182	4259	4188	4187	4185	4168	4134	4112	4102	4266
57	4126	3982	3974	3995	4010	4004	4002	4048	4113	4072	4049	4047	4044	3998	3966	3964	4126
58	3979	3832	3827	3850	3859	3855	3859	3898	3974	3918	3894	3896	3893	3855	3813	3812	3979
59	3830	3680	3674	3699	3713	3704	3710	3751	3824	3767	3739	3745	3739	3710	3660	3666	3830
60	3673	3529	3517	3548	3560	3555	3559	3596	3671	3615	3584	3595	3588	3560	3508	3515	3673
61	3516	3371	3363	3392	3397	3402	3406	3436	3512	3462	3429	3443	3427	3404	3348	3357	3516
62	3357	3208	3208	3226	3231	3245	3246	3271	3356	3304	3274	3283	3249	3244	3194	3201	3357
63	3192	3049	3048	3050	3037	3080	3087	3115	3198	3142	3112	3124	3052	3079	3037	3042	3192
64	3031	2883	2886	2874	2750	2913	2925	2953	3032	2977	2946	2960	2808	2903	2878	2874	3031
65	2866	2720	2716	2681	2408	2704	2756	2797	2867	2811	2784	2771	2539	2699	2718	2713	2866
66	2700	2554	2554	2390	2183	2386	2586	2636	2701	2649	2616	2508	2255	2463	2562	2554	2700
67	2528	2397	2395	2080	2040	2084	2420	2471	2532	2487	2452	2225	2067	2188	2400	2396	2528
68	2360	2238	2230	1894	1909	1908	2256	2306	2365	2325	2287	1976	1940	1944	2236	2234	2360
69	2191	2084	2058	1755	1785	1774	2096	2148	2194	2156	2127	1819	1812	1789	2074	2072	2191
70	2020	1918	1879	1626	1660	1642	1918	1984	2016	1986	1952	1689	1686	1664	1891	1915	2020
71	1849	1758	1670	1504	1538	1522	1656	1812	1849	1821	1739	1566	1569	1541	1682	1744	1849
72	1675	1592	1403	1385	1424	1404	1395	1650	1686	1644	1486	1438	1448	1419	1446	1575	1675
73	1510	1435	1220	1264	1272	1291	1245	1486	1516	1477	1257	1312	1307	1293	1245	1417	1510
74	1346	1274	1097	1137	1019	1161	1114	1323	1351	1313	1120	1184	1108	1157	1116	1252	1346
75	1187	1124	975	917	794	932	995	1169	1194	1160	1008	1005	790	986	1000	1102	1187
76	1036	973	863	702	590	730	882	1024	1039	1006	888	725	575	700	885	952	1036
77	885	828	757	508	492	533	772	874	891	864	781	512	494	498	776	814	885
78	747	699	636	414	437	426	626	734	752	728	660	426	445	424	657	683	747
79	615	565	468	365	387	374	475	587	622	598	488	384	400	376	478	551	615
80	492	420	309	319	338	328	332	437	502	448	309	338	353	333	306	410	492
81	381	314	238	275	291	281	246	345	391	337	241	294	306	290	243	313	381
82	284	240	196	231	228	241	204	269	298	261	203	250	255	244	204	241	284
83	204	178	160	158	122	165	163	196	214	194	168	185	132	179	168	179	204
84	138	116	128	74	68	81	130	132	145	129	134	78	73	73	134	112	138
85	87	65	68	51	54	55	79	71	92	70	81	58	60	57	75	66	87
86	53	50	37	44	49	44	43	53	54	53	39	46	52	49	40	49	53
87	28	29	31	39	44	40	30	35	25	32	33	41	45	43	35	31	28
88	13	17	28	32	36	34	29	18	15	18	29	37	36	36	29	21	13
89	10	12	20	25	31	29	23	17	10	14	22	30	37	31	24	11	10
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



6.0 THD and PF Test

Test Method

1. The samples were tested according to the ANSI C82.77-2002.
2. The ambient temperature condition was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample measurement was made using a digital power meter and power supply. The sample was operated at rated voltage and stabilized before measurement. The total harmonic distortion were calculated from the digital power meter.

Test Results

Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD
25.2	277.04	60	0.57450	154.58	0.9713	12.30%



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