



Photometric Test Report

Relevant Standards

- ☒ IES LM-79-2019
- ☒ ANSI C82.77-10-2014

Prepared For

AOK Industrial Company Limited

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Catalog Number

AOK-150WPLB-NV-L2-00-3080-T#-A

Project Number

4791629986

Report Number

4791629986-1a

Test Date

2025-01-21, 2025-02-14

Issue Date

2025-02-26

Revision Date

N/A

Prepared By

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Approved By

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

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1.0 Test List

Sample Received Date: 2025-01-16, 2025-02-08

Test No.	Test Item	Sample ID	Model Number	Test Conducted By
1	Goniophotometer Test	8043566	AOK-150WPLB-NV-L2-00-3080-T501-A	Ray Huang
2	Goniophotometer Test	8111038	AOK-150WPLB-NV-L2-00-3080-T301-A	Ray Huang
3	THD and PF Test	8043566	AOK-150WPLB-NV-L2-00-3080-T501-A	Ray Huang

Remark (if any)

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

2.0 Product Description

Luminaire Description: Outdoor Pole/Arm-Mounted Area and Roadway Luminaires

Model Number: AOK-150WPLB-NV-L2-00-3080-T501-A, AOK-150WPLB-NV-L2-00-3080-T301-A

Electrical Ratings and CCT: 100-277Vac, 50/60 Hz, 150W/100W/75W adjustable, 3000K/4000K/5000K tunable, default power setting is 150W and default CCT setting is 3000K.

Driver Model Number: SS-150NH-V300BHB

LED Package: L128-xx80RC35004W4, Lumileds Holding B.V.

Family Model and Variation: AOK-XXXWPLB-NV-L2-XX-xx80-T#-Y, where "XXX" represents default power setting, can be 150=150W, 100=100W, 75=75W. "XX" represents sensor, can be 00=No sensor, PIR=PIR sensor, MS=Motion sensor, DV= Dimmable, PH=Photocontrol. "xx" represents default CCT setting, can be 30=3000K, 40=4000K, 50=5000K. "T#" represents different lens, can be T301, T501. "Y" represents mounting bracket, can be A, B, D, E, F, G.

Photos of Luminaire Characteristics



3.0 LM-79 Measurement and Test Results

3.1 Goniophotometer Test 3000K

Model No.	AOK-150WPLB-NV-L2-00-3080-T501-A	Sample ID.	8043566
Operate time (Min.)	60	Stabilization time (Min.)	50

Test Method

- 1.The sample was tested according to the IES LM-79-2019, and the product is assume to be brand new without seasoning.
- 2.Photometric paramters were measured using a type C goniophotometer and software.
- 3.The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 0.9^{\circ}\text{C}$, measured at a point not more than 1.5 m from the sample and at the same height as the sample. The reference standard lamp is power 400W omni-directional Incandescent lamp and was calibrated by National Institute of Metrology, China.
- 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 1° 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

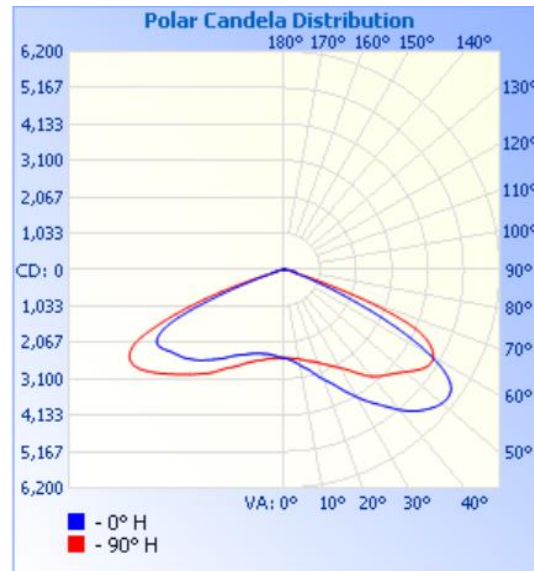
Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation
24.3	120.05	60	1.248	149.6	0.9987	Horizontal

Test Result

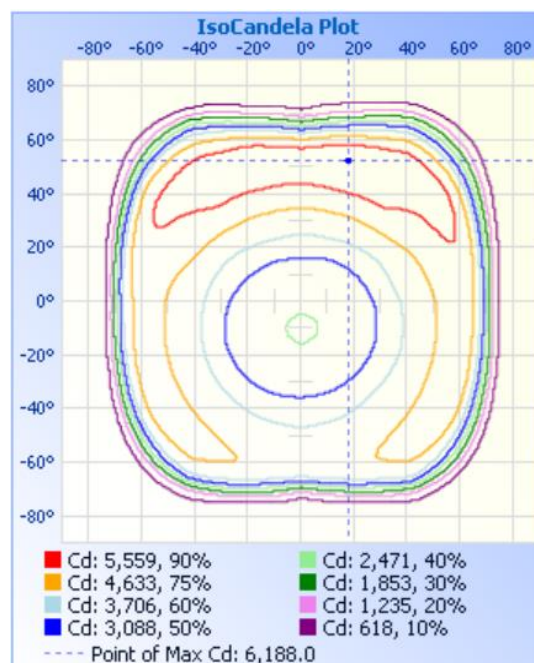
Zone Light Distribution (ZLD)		Beam Angle (50%)		Flux (lm)	Luminous Efficacy (lm/W)
0°~90°	80°~90°	Horizontal Spread	Vertical Spread		
100.0%	0.7%	114.6	53.4	18609.5	124.4
BUG Ratings					
Backlight	Uplight	Glare			
4	0	4			

3.1 Goniophotometer Test (Cont'd)

Light Distribution Curve



IsoCandela Plot



3.1 Goniophotometer Test (Cont'd)

Zonal Lumen Summary

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	2,461.3	13.2%
0-40	4,825.5	25.9%
0-60	12,942.9	69.6%
60-90	5,666.6	30.4%
70-100	1,343.4	7.2%
90-120	0	0%
0-90	18,609.5	100%
90-180	0	0%
0-180	18,609.5	100%

Lumens Per Zone

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	243.1	1.3%	90-100	0	0%
10-20	773.6	4.2%	100-110	0	0%
20-30	1,444.7	7.8%	110-120	0	0%
30-40	2,364.2	12.7%	120-130	0	0%
40-50	3,526.1	18.9%	130-140	0	0%
50-60	4,591.3	24.7%	140-150	0	0%
60-70	4,323.2	23.2%	150-160	0	0%
70-80	1,207.7	6.5%	160-170	0	0%
80-90	135.6	0.7%	170-180	0	0%

3.1 Goniophotometer Test (Cont'd)

Intensity Data(cd)

	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	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
1	2514	2520	2513	2510	2504	2501	2507	2507	2503	2511	2503	2505	2494	2505	2503	2512	2509
2	2521	2514	2520	2508	2500	2506	2500	2508	2499	2506	2508	2499	2501	2500	2508	2509	2515
3	2552	2545	2535	2522	2508	2497	2496	2492	2487	2498	2493	2501	2498	2518	2523	2538	2538
4	2579	2574	2562	2541	2508	2503	2489	2480	2477	2479	2492	2495	2512	2530	2548	2571	2574
5	2592	2605	2589	2551	2521	2507	2481	2477	2462	2475	2486	2500	2519	2542	2574	2592	2607
6	2616	2635	2605	2567	2533	2504	2485	2469	2457	2469	2477	2505	2521	2561	2589	2621	2630
7	2647	2659	2621	2583	2537	2511	2485	2459	2455	2460	2481	2507	2531	2575	2603	2645	2650
8	2687	2672	2644	2596	2539	2518	2481	2461	2451	2453	2482	2505	2541	2579	2625	2663	2678
9	2725	2702	2668	2610	2558	2525	2478	2457	2439	2453	2480	2514	2551	2594	2650	2688	2713
10	2768	2750	2704	2638	2577	2532	2486	2456	2434	2452	2480	2528	2561	2625	2685	2738	2758
11	2811	2799	2741	2673	2599	2543	2495	2452	2440	2452	2487	2541	2578	2654	2720	2788	2804
12	2849	2847	2787	2705	2614	2564	2503	2455	2443	2451	2499	2552	2603	2680	2761	2837	2854
13	2884	2893	2832	2735	2634	2583	2509	2466	2452	2460	2511	2564	2624	2705	2804	2879	2912
14	2926	2943	2873	2758	2659	2602	2519	2477	2455	2474	2521	2582	2644	2733	2845	2922	2964
15	2981	2998	2914	2787	2683	2613	2535	2489	2463	2487	2529	2602	2660	2767	2883	2970	3015
16	3052	3048	2949	2819	2704	2627	2549	2497	2477	2501	2541	2620	2678	2796	2913	3019	3060
17	3121	3098	2987	2854	2722	2644	2562	2505	2490	2509	2557	2637	2698	2824	2946	3065	3106
18	3189	3140	3033	2888	2742	2666	2579	2517	2504	2522	2577	2649	2725	2850	2985	3113	3156
19	3251	3190	3089	2929	2768	2690	2595	2536	2518	2539	2599	2671	2752	2878	3034	3164	3222
20	3311	3262	3157	2973	2803	2716	2615	2557	2533	2566	2622	2698	2785	2919	3094	3232	3295
25	3684	3683	3508	3237	2985	2847	2739	2663	2654	2688	2762	2861	2982	3191	3445	3655	3715
30	4174	4108	3875	3521	3215	3014	2878	2822	2812	2858	2924	3059	3215	3504	3831	4080	4156
35	4652	4604	4387	3962	3551	3300	3135	3067	3067	3112	3213	3338	3549	3928	4354	4615	4673
40	5193	5161	4924	4461	3954	3672	3479	3362	3341	3410	3552	3650	3864	4393	4979	5209	5203
45	5639	5627	5475	4861	4217	3992	3882	3693	3614	3718	3934	3961	4196	4759	5554	5701	5656
50	5911	5986	5936	5129	4516	4264	4311	4013	3847	4021	4237	4351	4582	5170	5870	6076	5899
55	5866	6112	6087	5512	4882	4744	4582	4290	4032	4265	4553	4813	4967	5577	5997	6188	5868
60	4870	5618	5821	5698	4956	5037	4839	4529	4224	4477	4802	5215	5131	5851	5987	5765	4898
65	2728	4082	5183	5247	4407	4806	4751	4352	3669	4239	4807	5110	4572	5420	5444	4136	2685
70	946	1876	3596	3504	2269	3160	4006	2998	1475	2853	4212	3430	2440	3411	3752	2018	861
75	343	481	1322	1052	302	812	1427	796	339	603	1766	1169	346	1293	1580	623	345
80	318	302	261	261	181	185	405	236	199	234	404	188	174	259	282	288	326
85	132	150	126	123	113	104	159	96	66	92	161	97	103	111	120	153	124
90	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
100	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
110	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
120	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
130	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
140	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
150	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
160	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
170	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
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3.0 LM-79 Measurement and Test Results

3.2 Goniophotometer Test 3000K

Model No.	AOK-150WPLB-NV-L2-00-3080-T301-A	Sample ID.	8111038
Operate time (Min.)	60	Stabilization time (Min.)	50

Test Method

- 1.The sample was tested according to the IES LM-79-2019, and the product is assume to be brand new without seasoning.
- 2.Photometric paramters were measured using a type C goniophotometer and software.
- 3.The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 0.9^{\circ}\text{C}$, measured at a point not more than 1.5 m from the sample and at the same height as the sample. The reference standard lamp is power 400W omni-directional Incandescent lamp and was calibrated by National Institute of Metrology, China.
- 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 1° 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

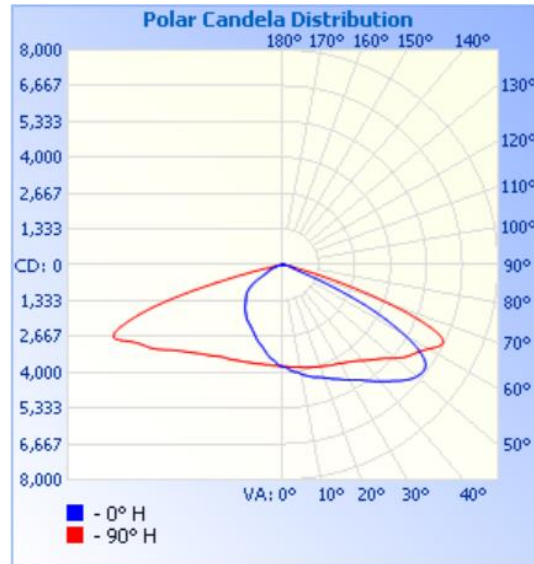
Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation
24.3	120.07	60	1.245	149.3	0.9987	Horizontal

Test Result

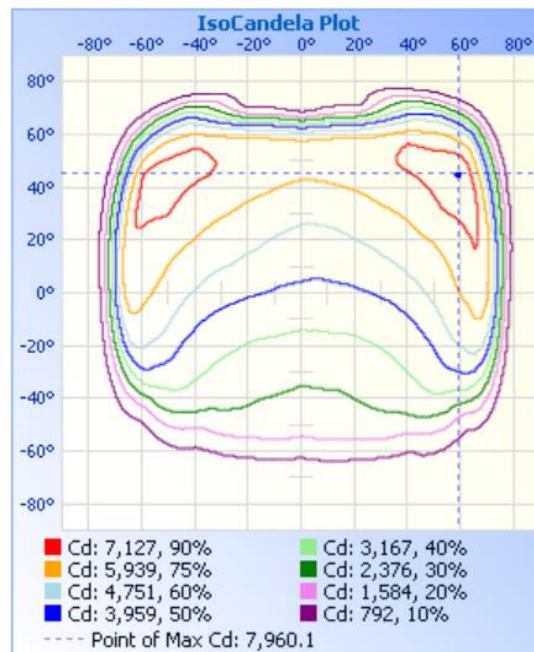
Zone Light Distribution (ZLD)		Beam Angle (50%)		Flux (lm)	Luminous Efficacy (lm/W)
0°~90°	80°~90°	Horizontal Spread	Vertical Spread		
100.0%	0.8%	136.3	93.7	19046.2	127.6
BUG Ratings					
Backlight	Uplight	Glare			
3	0	3			

3.2 Goniophotometer Test (Cont'd)

Light Distribution Curve



IsoCandela Plot



3.2 Goniophotometer Test (Cont'd)

Zonal Lumen Summary

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	3,238.7	17%
0-40	5,813.4	30.5%
0-60	13,481.6	70.8%
60-90	5,564.5	29.2%
70-100	1,753.3	9.2%
90-120	0	0%
0-90	19,046.2	100%
90-180	0	0%
0-180	19,046.2	100%

Lumens Per Zone

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	361.5	1.9%	90-100	0	0%
10-20	1,078.5	5.7%	100-110	0	0%
20-30	1,798.7	9.4%	110-120	0	0%
30-40	2,574.7	13.5%	120-130	0	0%
40-50	3,453.0	18.1%	130-140	0	0%
50-60	4,215.2	22.1%	140-150	0	0%
60-70	3,811.3	20.0%	150-160	0	0%
70-80	1,605.7	8.4%	160-170	0	0%
80-90	147.5	0.8%	170-180	0	0%

3.2 Goniophotometer Test (Cont'd)

Intensity Data(cd)

	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	3784	3784	3784	3784	3784	3784	3784	3784	3784	3784	3784	3784	3784	3784	3784	3784	3784
1	3806	3807	3809	3800	3782	3770	3765	3777	3763	3773	3760	3763	3769	3780	3791	3797	3792
2	3814	3822	3809	3791	3778	3781	3768	3763	3749	3767	3767	3765	3764	3772	3783	3800	3806
3	3883	3871	3866	3836	3792	3759	3731	3721	3701	3712	3714	3738	3764	3803	3830	3855	3854
4	3922	3933	3903	3865	3810	3757	3697	3661	3642	3660	3681	3712	3754	3815	3868	3908	3920
5	3970	3980	3951	3890	3814	3749	3675	3625	3583	3607	3646	3700	3763	3833	3888	3936	3960
6	4003	4007	3985	3923	3825	3732	3645	3592	3550	3567	3607	3682	3765	3853	3920	3966	3985
7	4020	4033	4005	3946	3838	3730	3620	3559	3517	3540	3587	3662	3756	3866	3941	3997	4019
8	4041	4067	4026	3956	3848	3728	3606	3524	3479	3512	3568	3655	3753	3866	3952	4019	4045
9	4090	4103	4068	3980	3848	3721	3583	3484	3428	3460	3538	3644	3764	3885	3971	4041	4078
10	4137	4146	4118	4024	3865	3702	3547	3430	3371	3397	3486	3623	3769	3912	4011	4080	4115
11	4179	4191	4167	4067	3890	3690	3503	3378	3310	3345	3442	3596	3772	3938	4049	4127	4162
12	4211	4243	4207	4104	3910	3688	3471	3323	3254	3294	3409	3576	3772	3958	4087	4168	4208
13	4247	4292	4252	4134	3925	3684	3447	3277	3195	3246	3377	3571	3778	3979	4112	4203	4247
14	4288	4335	4304	4166	3932	3678	3422	3241	3144	3195	3346	3559	3795	4004	4139	4227	4280
15	4320	4372	4349	4207	3945	3663	3397	3206	3101	3150	3311	3550	3807	4034	4174	4251	4301
16	4348	4399	4390	4243	3965	3653	3368	3173	3065	3115	3280	3536	3815	4060	4211	4285	4326
17	4369	4429	4419	4276	3983	3649	3341	3138	3027	3083	3257	3524	3818	4082	4242	4317	4360
18	4391	4470	4453	4304	3998	3647	3318	3096	2991	3049	3241	3515	3824	4101	4272	4345	4390
19	4422	4507	4489	4329	4011	3642	3299	3052	2945	3011	3214	3512	3834	4125	4298	4378	4423
20	4468	4554	4547	4366	4022	3633	3269	3008	2894	2963	3182	3503	3851	4157	4334	4408	4462
25	4684	4824	4834	4610	4127	3576	3124	2820	2677	2752	3022	3439	3927	4364	4594	4643	4683
30	4938	5127	5150	4856	4233	3544	3036	2701	2515	2600	2914	3418	4036	4582	4860	4881	4917
35	5248	5495	5489	5149	4398	3534	2956	2569	2365	2485	2848	3398	4157	4846	5175	5231	5245
40	5664	5938	5954	5571	4643	3534	2870	2434	2178	2331	2778	3401	4375	5238	5610	5648	5632
45	6101	6453	6385	5993	4956	3604	2753	2272	1962	2179	2711	3450	4637	5638	6047	6143	6096
50	6476	6824	6804	6477	5401	3655	2559	2072	1781	1990	2577	3489	4978	6081	6518	6622	6465
55	6476	6944	7148	7000	5834	3691	2220	1745	1520	1732	2324	3561	5493	6579	6932	6840	6443
60	5240	6241	7307	7328	6248	3331	1583	1214	1021	1316	1845	3486	5980	7249	7251	6261	5314
65	2763	4270	6982	7610	6555	2444	881	693	623	729	1101	2792	6642	7626	7203	4281	2812
70	509	1456	5328	6811	4182	942	595	486	469	495	638	1459	6093	7888	5705	1670	510
75	416	409	3143	3318	1054	386	400	326	298	338	447	512	2593	5930	3749	435	412
80	212	288	579	504	233	177	180	176	180	200	230	252	296	1929	1128	312	219
85	95	109	164	113	86	67	64	65	67	79	90	91	139	186	166	110	95
90	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
100	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
110	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
120	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
130	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
140	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
150	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
160	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
170	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
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 THD and PF Test

Model No.	AOK-150WPLB-NV-L2-00-3080-T501-A	Sample ID.	8043566
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Test Method

1. The samples were tested according to the ANSI C82.77-10-2014.
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

CCT Range	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD
0%-3000K	120	60	1.246	149.3	0.9987	5.01%
	277	60	0.541	144.9	0.9675	5.21%
50%-4000K	120	60	1.191	142.8	0.9987	5.11%
	277	60	0.519	138.7	0.9643	5.59%
100%-5000K	120	60	1.262	151.3	0.9987	4.98%
	277	60	0.547	146.8	0.9686	5.10%



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