

Photometric Test Report

Relevant Standards

- ☒ IES LM-79-2008
- ☒ ANSI C82.77:2014

Prepared For RAB Lighting Inc.

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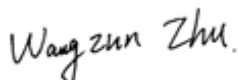
Test Date

2018/4/16

Issue Date

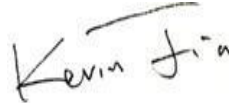
2018/4/16

Prepared By



Wangzun Zhu

Approved By



Kevin Jia

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1.0 Test Summary

DLC Technical Requirements v4.3

Outdoor - Architectural Flood and Spot Luminaires				
Requirement Category	Test Method	Requirements	Test value	Results (Fail/Pass)
Lamp Output (lm)	IES LM-79-2008	1000	2840	P
Zonal Lumen Requirement (0°-90°)	IES LM-79-2008	≥85%	100.00%	P
Minimum Luminaire Efficacy (lm/W)	IES LM-79-2008	90	99.2	P
Allowable CCTs* (K)	IES LM-79-2008	5700	2986	P
Minimum CRI	IES LM-79-2008 CIE 13.3-1995	65	69.5	P
Power Factor	ANSI C82.77:2014	0.873	0.935	P
Total Harmonic Distortion (A%)	ANSI C82.77:2014	25.00%	8.58%	P

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2018/4/16	HNLED26Y	Y1
2	Goniophotometer Test	2018/4/16	HNLED26Y	Y1
3	THD and PF Test	2018/4/16	HNLED26Y	Y1

Remark(If any)

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3.0 Production Description

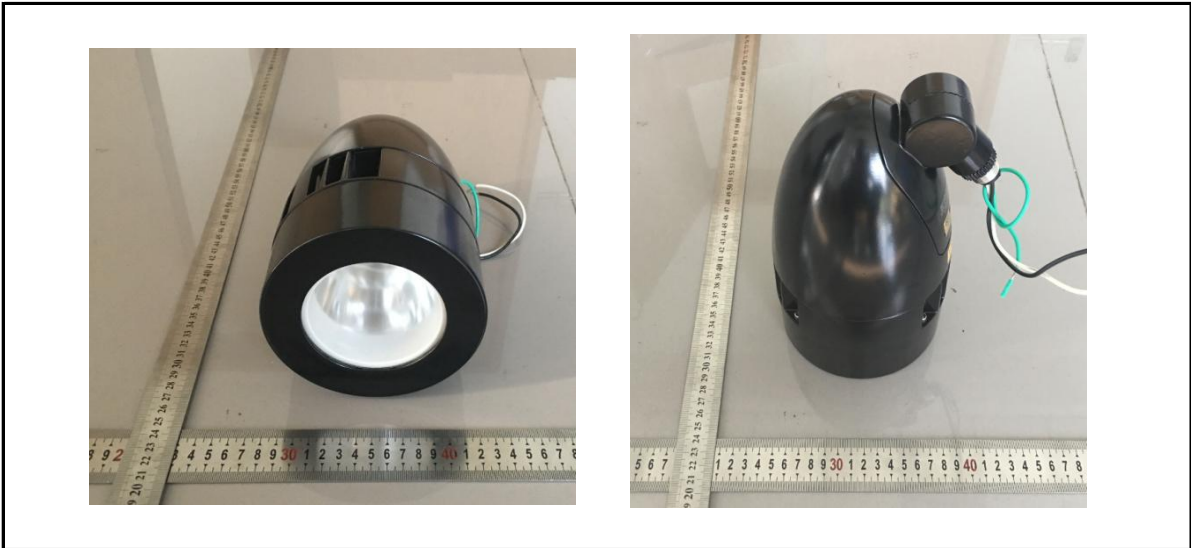
Luminaire Description:

Electrical Specification: 120V-277V,50/60HZ

Light source: LL725F1212-XXC

Manufacturer Of Light Source: Lustrous International Technology Company

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	HNLED26Y	Sample ID.	Y1
Operate time (Min.)	90	Stabilization time (Min.)	45

Test Method

The samples were tested according to the IES LM-79-2008.

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.

The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ± 0.2 percent under load.

The sample was measured using 4π geometry and 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.

Test Conditions

Temperature ($^{\circ}\text{C}$)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
25.1	276.95	60	0.111	28.72	0.935

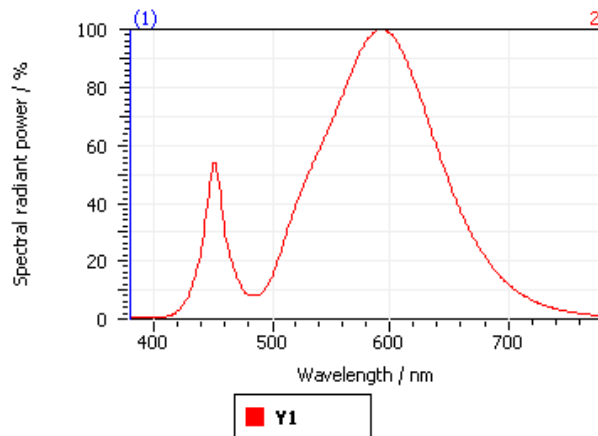
Test Result

CCT (K)	CRI (Ra)	Duv
2986	69.5	3.2E-03

4.1 Integrating Sphere Test

Spectroradiometric Parameters

Results



Spectral values

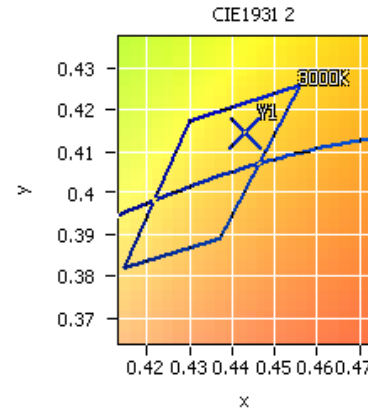
DominantWavelength	581.82 nm
Purity	0.573
PeakWavelength	593.07 nm
Width50%:	116.82 nm

Color Coordinates

Correlated Color Temperature 2986 K

x: 0.4428 u: 0.2499 u': 0.2499
y: 0.4144 v: 0.3508 v': 0.5262

ResultsCRICRI01	65.1	ResultsCRICRI09	-36.0
ResultsCRICRI02	78.9	ResultsCRICRI10	50.7
ResultsCRICRI03	90.9	ResultsCRICRI11	57.4
ResultsCRICRI04	65.3	ResultsCRICRI12	37.1
ResultsCRICRI05	63.5	ResultsCRICRI13	67.2
ResultsCRICRI06	69.4	ResultsCRICRI14	94.6
ResultsCRICRI07	79.0	ResultsCRICRI15	58.0
ResultsCRICRI08	43.5	ResultsCRICRI16	57.8
ResultsCRI	69.5		



Nominal CCT: 3000K

PlanckDistance 3.2E-003

4.0 LM-79 Measurement and Test Results

4.3 Goniophotometer Test

Model No.	HNLED26Y	Sample ID.	Y1
Operate time (Min.)	90	Stabilization time (Min.)	45

Test Method

The samples were tested according to the IES LM-79-2008.

Photometric parameters were measured using a type C goniophotometer and software.

The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample.

The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ± 0.2 percent under load.

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 10° horizontal intervals.

Test Conditions

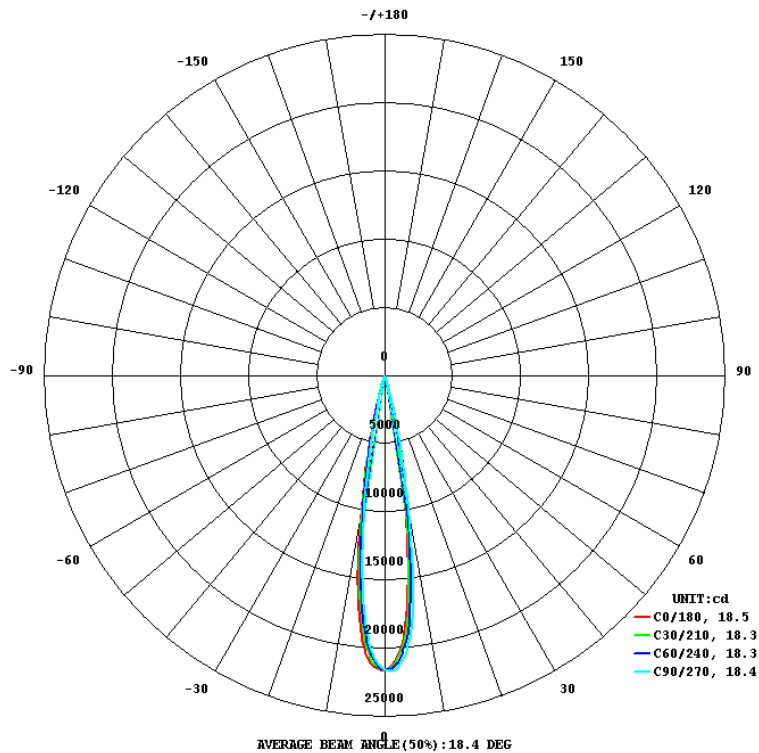
Temperature ($^{\circ}\text{C}$)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation
25.1	276.99	60	0.111	28.64	0.931	Light Down

Test Result

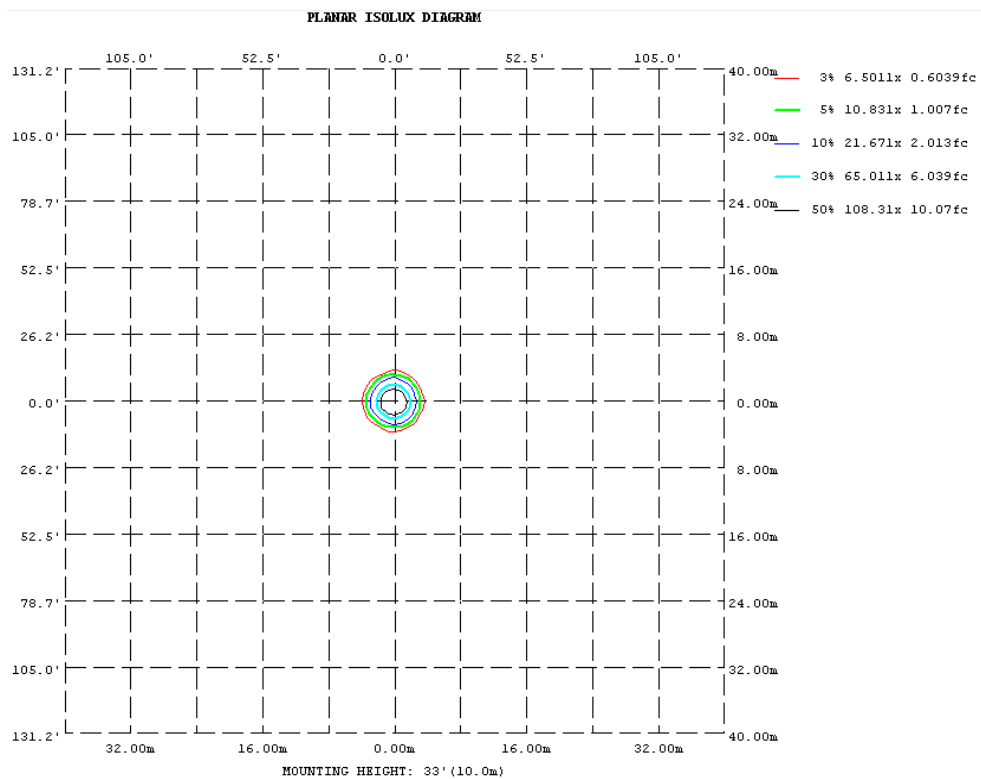
Flux(lm)	Zonal Lumen Requirement (0° - 90°)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	
2840	100.00%	30.5	30.9	18.4	18.5	99.2

4.3 Goniophotometer Test

Light Distrubtion Curve



Isolux Plot



4.3 Goniophotometer Test

Zonal Lumen Summary

°	C0	C45	C90	C135	C180	C225	C270	C315
10	828.2	869.2	1034	1150	1035	944.8	835.8	723.1
20	65.65	71.49	77.33	84.51	90.15	82.62	73.48	66.09
30	22.37	23.56	24.20	23.68	24.32	23.67	22.28	21.02
40	13.19	12.73	12.95	13.77	12.83	13.43	12.88	12.24
50	9.687	9.665	9.972	10.23	9.467	9.830	9.676	9.124
60	6.691	6.682	6.800	6.944	6.856	6.930	6.899	6.791
70	3.540	3.674	3.871	4.015	3.687	3.582	3.448	3.353
80	0.7746	0.8267	0.9031	0.9566	0.7927	0.7408	0.6135	0.6253
90	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0
DEG	LUMINOUS INTENSITY: *10cd Less than 35% Percent = 2.3 %							

4.3 Goniophotometer Test

ZONAL LUMEN SUMMARY

	Zonal (lm)		Total (lm)	Percent
0 - 10	1445.71	0 - 10	1445.71	50.91%
10 - 20	868.40	0 - 20	2314.10	81.48%
20 - 30	184.38	0 - 30	2498.48	87.98%
30 - 40	106.44	0 - 40	2604.92	91.72%
40 - 50	86.34	0 - 50	2691.26	94.76%
50 - 60	71.24	0 - 60	2762.50	97.27%
60 - 70	51.93	0 - 70	2814.43	99.10%
70 - 80	22.38	0 - 80	2836.81	99.89%
80 - 90	3.16	0 - 90	2839.97	100.00%
90 - 100	0.00	0 - 100	2839.97	100.00%
100 - 110	0.00	0 - 110	2839.97	100.00%
110 - 120	0.00	0 - 120	2839.97	100.00%
120 - 130	0.00	0 - 130	2839.97	100.00%
130 - 140	0.00	0 - 140	2839.97	100.00%
140 - 150	0.00	0 - 150	2839.97	100.00%
150 - 160	0.00	0 - 160	2839.97	100.00%
160 - 170	0.00	0 - 170	2839.97	100.00%
170 - 180	0.00	0 - 180	2839.97	100.00%

4.3 Goniophotometer Test

Axial Candela

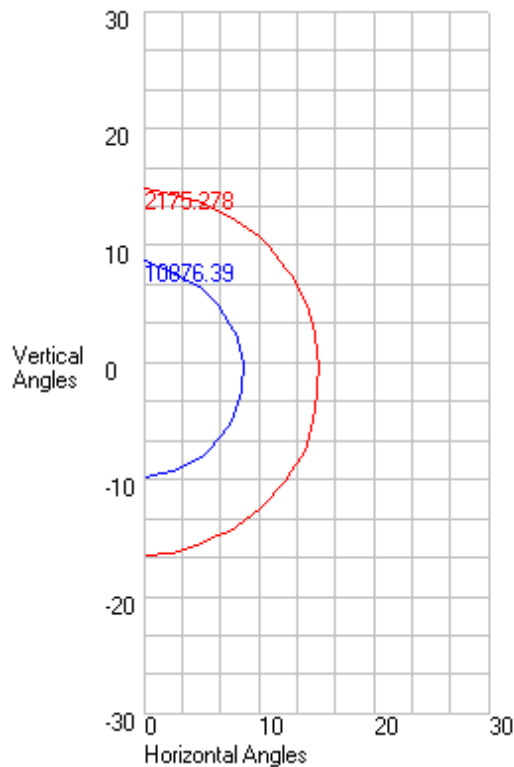
DEG.	HOR.	DEG.	VERT.
90	0.01	90	0.01
85	0.27	85	1.33
75	18.08	75	19.31
65	53.84	65	53.74
55	78.32	55	77.59
47.5	105.54	47.5	106.38
42.5	121.45	42.5	122.58
37.5	140.19	37.5	145.04
33	183.97	33	190.38
29	238.15	29	236.04
25.5	310.27	25.5	301.79
22.5	485.3	22.5	455.13
19.5	804.04	19.5	717.77
17	1376.27	17	1199.44
15	2236.34	15	2038.51
13	4178.47	13	3881.75
11	6931.55	11	6601.64
9	9999.35	9	10282.72
7	13877.79	7	14461.94
5	17540.471	5	18138.65
3	20172.211	3	20372.51
1	21318.07	1	21370.73
0	21556.41	0	21556.41
-1	21621.369	-1	21579.35
-3	21178.08	-3	21046
-5	19858.41	-5	19510.439
-7	17149.189	-7	16410.131
-9	12692.1	-9	12389.54
-11	8275.12	-11	8623.23
-13	4985.64	-13	5350.39
-15	2456.61	-15	2962.71
-17	1398.57	-17	1674.89
-19.5	844.57	-19.5	993.75
-22.5	544.13	-22.5	594.08
-25.5	369.04	-25.5	383.04
-29	258.76	-29	262.35
-33	199.41	-33	197.65
-37.5	143.32	-37.5	145.29
-42.5	120.78	-42.5	117.46
-47.5	107.4	-47.5	101.96
-55	81.62	-55	79.29
-65	57.4	-65	55.63
-75	21.56	-75	20.12
-85	1.27	-85	1.25
-90	0.02	-90	0.01

4.3 Goniophotometer Test

Characteristics

NEMA Type	3 H x 3 V
Maximum Candela	21752.779
Maximum Candela Angle	-1 H -1 V
Horizontal Beam Angle (50%)	18.6
Vertical Beam Angle (50%)	18.9
Horizontal Field Angle (10%)	30.8
Vertical Field Angle (10%)	31.2
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	1324
Beam Efficiency	N.A.
Field Lumens	2124
Field Efficiency	N.A.
Spill Lumens	716
Luminaire Lumens	2840
Total Efficiency	N.A.
Total Luminaire Watts	28.6396
Ballast Factor	1

ISOCANDELA CURVES





	0	1	3	5	7	9	11	13	15	17	19.5	22.5	25.5	29	33	37.5	42.5	47.5	55	65	75	85	90
90	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
85	1.33	1.29	1.21	1.129	1.049	0.969	0.888	0.744	0.651	0.622	0.583	0.529	0.47	0.407	0.315	0.214	0.117	0.056	0.02	0.01	0.01	0.01	0.01
75	19.31	19.165	18.785	18.585	17.995	17.508	16.971	16.385	15.886	15.512	15.047	14.398	13.645	12.649	11.344	9.777	8.06	6.348	3.885	1.169	0.054	0.01	0.01
65	53.74	53.569	53.226	52.509	51.812	51.002	50.083	49.014	48.09	47.2	46.014	44.205	42.346	39.406	36.035	31.863	26.96	22.069	15.054	6.603	1.078	0.01	0.01
55	77.59	77.448	77.163	76.438	75.758	74.974	74.145	73.378	72.685	72.01	71.175	70.223	69.185	67.651	64.949	60.21	52.934	44.41	30.968	15.209	3.709	0.01	0.01
47.5	106.38	106.079	105.477	104.146	102.846	101.307	99.549	98.002	96.274	94.405	91.894	88.556	84.523	79.458	74.384	70.969	67.892	61.093	44.696	22.462	6.181	0.033	0.01
42.5	122.58	122.29	121.711	120.355	119.039	117.531	115.811	114.111	111.973	109.438	106.34	102.629	98.099	92.553	85.406	77.827	71.731	68.135	53.469	27.568	7.972	0.047	0.01
37.5	145.04	144.508	142.855	140.75	138.443	135.038	132.218	129.452	126.614	123.755	120.381	115.052	109.674	103.715	96.612	88.262	78.13	71.242	61.094	32.643	9.818	0.06	0.01
33	190.38	189.337	185.679	180.728	174.395	167.979	160.542	152.692	146.745	141.352	134.399	126.926	120.38	112.831	105.403	96.926	85.981	75.027	66.117	37.073	11.54	0.087	0.01
29	236.04	235.493	232.616	228.277	222.396	214.982	206.015	196.786	185.14	172.833	157.551	145.133	132.101	122.338	113.092	103.63	92.86	80.485	68.863	40.688	12.95	0.112	0.01
25.5	301.79	300.1	292.299	282.233	272.151	261.554	249.753	236.569	222.196	208.107	191.53	170.17	149.01	131.697	119.515	108.947	98.316	85.627	70.341	43.841	14.05	0.133	0.01
22.5	455.13	449.778	426.659	397.559	367.249	337.446	309.638	284.474	261.999	241.851	217.92	194.121	169.926	144.493	125.054	114.199	102.703	89.592	71.31	45.814	14.897	0.164	0.01
19.5	717.77	708.714	665.299	607.733	563.108	508.339	446.476	384.787	330.024	288.404	251.015	218.168	191.175	157.387	132.49	119.115	106.422	93.357	72.362	47.806	15.642	0.19	0.01
17	1199.44	1182.58	1079.35	949.104	853.224	747.035	633.807	529.086	441.121	359.542	289.924	241.742	207.107	173.491	140.122	122.238	109.501	96.137	73.335	49.159	16.185	0.209	0.01
15	2038.51	1952.63	1682.08	1493.53	1314.59	1050.3	859.453	688.739	559.789	446.649	335.995	262.445	221.877	185.611	145.616	124.841	112.118	97.896	74.162	50.187	16.625	0	

LUMEN TABULATION

	0	1	3	5	7	9	11	13	15	17	20	23	26	29	33	38	43	48	55	65	75	85	90	Total
90																								
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
75	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0	0	
65	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0	0	0	
55	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.4	0.3	0.1	0	0	
47.5	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.3	0.1	0	0	
42.5	0.2	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.1	0	0	
37.5	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.3	0.1	0	0	
33	0.2	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.1	0	0	
29	0.3	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.1	0	0	
25.5	0.3	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.1	0	0	
22.5	0.3	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.1	0	0	
19.5	0.5	1	1	0.9	0.8	0.8	0.7	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.3	0.1	0	0	
17	0.7	1.4	1.3	1.2	1	0.9	0.8	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0	0	
15	1	1.8	1.6	1.4	1.2	1	0.8	0.7	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0	0	
13	1.78 *	3.23 *	2.7	2.3	1.8	1.4	1.1	0.9	0.7	0.7	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0	0	
11	3.14 *	5.68 *	4.79 *	3.89 *	2.92 *	2.1	1.5	1.1	0.9	0.8	0.7	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0	0	0	
9	5.06 *	9.24 *	7.90 *	6.40 *	4.71 *	3.24 *	2.2	1.5	1.1	0.9	0.8	0.5	0.5	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0	0	0	
7	7.42 *	13.71 *	11.90 *	9.65 *	7.11 *	4.86 *	3.07 *	1.9	1.3	1.1	0.9	0.6	0.5	0.4	0.4	0.3	0.2	0.3	0.2	0.1	0	0	0	
5	9.79 *	18.33 *	16.23 *	13.38 *	9.94 *	6.82 *	4.29 *	2.5	1.6	1.3	1	0.6	0.5	0.4	0.4	0.3	0.2	0.3	0.2	0.1	0	0	0	
3	11.58 *	22.08 *	19.97 *	16.73 *	12.69 *	8.77 *	5.54 *	3.18 *	1.8	1.4	1.1	0.7	0.5	0.5	0.4	0.3	0.2	0.3	0.2	0.1	0	0	0	
1	12.62 *	24.44 *	22.57 *	19.29 *	14.91 *	10.40 *	6.62 *	3.76 *	2.1	1.5	1.1	0.7	0.6	0.5	0.4	0.3	0.2	0.3	0.2	0.1	0	0	0	
0	6.52 *	12.73 *	11.87 *	10.28 *	8.02 *	5.62 *	3.59 *	2.03 *	1.1	0.8	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0	0	0	0	

-1	6.56 *	12.86 *	12.02 *	10.44 *	8.18 *	5.74 *	3.66 *	2.06 *	1.1	0.8	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0	0	0	
-3	13.00 *	25.49 *	23.79 *	20.63 *	16.11 *	11.27 *	7.14 *	4.01 *	2.2	1.6	1.1	0.7	0.6	0.5	0.4	0.3	0.3	0.3	0.2	0.1	0	0	
-5	12.41 *	24.35 *	22.51 *	19.28 *	14.85 *	10.29 *	6.47 *	3.61 *	2	1.5	1.1	0.7	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.1	0	0	
-7	11.05 *	21.70 *	19.85 *	16.64 *	12.53 *	8.62 *	5.37 *	3.00 *	1.7	1.3	1	0.6	0.5	0.4	0.4	0.3	0.2	0.3	0.2	0.1	0	0	
-9	8.89 *	17.57 *	15.89 *	12.97 *	9.63 *	6.58 *	4.05 *	2.3	1.4	1.2	0.9	0.6	0.5	0.4	0.4	0.3	0.2	0.3	0.2	0.1	0	0	
-11	6.49 *	12.90 *	11.61 *	9.33 *	6.88 *	4.63 *	2.88 *	1.8	1.2	1	0.8	0.6	0.5	0.4	0.4	0.3	0.2	0.3	0.2	0.1	0	0	
-13	4.32 *	8.61 *	7.80 *	6.23 *	4.52 *	3.05 *	2	1.4	1	0.9	0.7	0.5	0.5	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0	0	
-15	2.58 *	5.17 *	4.72 *	3.79 *	2.80 *	2	1.5	1.1	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0	0	
-17	1.44 *	2.90 *	2.7	2.3	1.8	1.4	1.1	0.8	0.7	0.6	0.6	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0	0	
-20	1	2.1	2	1.8	1.5	1.2	1	0.8	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.2	0.1	0	0	
-23	0.7	1.5	1.4	1.3	1.2	1	0.9	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.3	0.4	0.3	0.1	0	0	
-26	0.5	0.9	0.9	0.8	0.8	0.7	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.3	0.1	0	0	
-29	0.4	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.1	0	0	
-33	0.3	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.1	0	0	
-38	0.2	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.1	0	0	
-43	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.1	0	0	
-48	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.1	0	0	
-55	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.1	0	0	
-65	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.4	0.5	0.3	0.1	0	0	
-75	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0	0	0	
-85	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
-90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	133	257	235	198	153	110	74	48	32	29	26	20	19	18	16	15	12	13	9.8	3.4	0.5	0	1420

5.0 THD and PF Test

Model No.	HNLED26Y	Sample ID.	Y1
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Test Method

The samples were tested according to the ANSI C82.77:2002.

The total harmonic distortion shall be measured to the 40th order.

The ambient temperature condition was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion were calculated.

Test Results

Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD
25.1	276.95	60	0.111	28.72	0.935	8.58%
25.1	120.01	60	0.240	28.64	0.995	6.48%

6.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last	Calibration Due
DLF107	Integrating Sphere System	2017/12/28	2018/12/27
DLF108	Auxiliary Lamp	2017/12/28	2018/12/27
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2017/12/28	2018/12/27
DLF116	AC Power Source	2017/12/28	2018/12/27
DLF113	Power Meter	2017/12/28	2018/12/27
DLF112	Temperature Recorder	2017/12/28	2018/12/27
DLF114	Temperature & Humidity Datalogger	2017/12/28	2018/12/27
DLF101	Goniophotometer	2017/12/28	2018/12/27
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2017/12/28	2018/12/27
DLF104	AC Power Source	2017/12/28	2018/12/27
DLF507	DC Power Source	2017/12/28	2018/12/27
DLF102	Power Meter	2017/12/28	2018/12/27
DLF111	Temperature & Humidity Datalogger	2017/12/28	2018/12/27
DLF119	Power Meter	2017/12/28	2018/12/27
DLF031	Temperature data logger	2017/12/28	2018/12/27
DLF022	Digital power meter	2017/12/28	2018/12/27
DLF003	Temperature & Humidity Datalogger	2017/12/28	2018/12/27

***** End of Test Report*****