

## Photometric Test Report

### Relevant Standards

- ☒ ANSI/IES LM-79-2019
- ☒ ANSI C82.77-2017

Prepared For

**RAB Lighting Inc.**

Address: 408 W 14th St New York, NY 10014

Prepared By

**Dongguan New Testing Centre Co., Ltd.**

Address: 3F No. 1 the 1st North Industry Road, Songshan Lake Science & Technology Park, Dongguan, Guangdong, China

Prepare by:

*Alan Wang*

Engineer: Alan Wang

Date: 2025-02-21

Review by:

*Vincent Yuan*

Technical Lead: Vincent Yuan

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Revised Date: N/A

## 1.0 Test Summary

DLC Technical Requirements V5.1

Architectural Flood and Spot Luminaires				
Requirement Category	Test Method	Requirements		Test Value
Luminaire Output (lm) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	1000		2404
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	111.3
		105	120	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		21.6
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	13.48
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.991
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	5029±283	5191
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥70		82.9
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79-2019 CIE13.3-1995	N/A		12
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		83
Minimum Rg (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥89		98
IES Rcs,h1 (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	-18%≤IES Rcs,h1≤+23%		-12%
Zonal Lumen Requirement (0°-90°) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	≥85%		100.0%
Input Voltage (V)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Cast		120.0
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A
Input Current (A)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		0.182
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		21.6
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Goniophotometer Test	-	BULLET2X20 @20W5000K	ES 1st ES #3-4	241216023-S1
2	THD and PF Test	-	BULLET2X20 @20W5000K	ES 1st ES #3-4	241216023-S1

### Remark (If any):

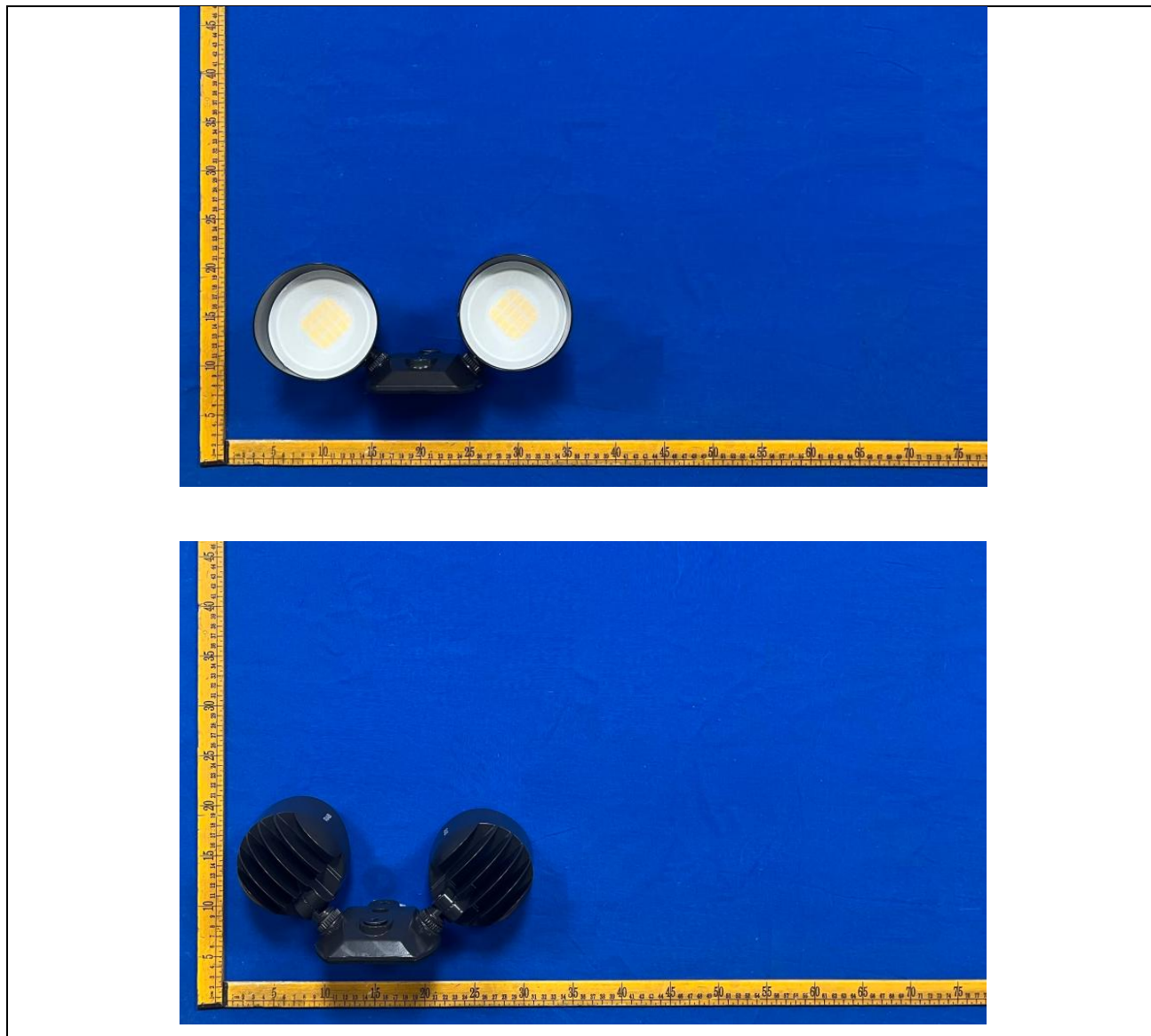
1. The results contained in this report pertain only to the tested samples.
2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.
4. The test result is based BULLET2X20 @20W3000K and BULLET2X12 @40W5000K.

## 4.0 Product Description

Luminaire Description: Model No. BULLET2X20 @20W5000K, color tunable from 3000K, 4000K and 5000K.

Electrical Specification: 120Vac, 60Hz

Photos of Luminaire Characteristics



## 4.0 LM-79 Measurement and Test Results

### 4.1 Goniophotometer Test

<b>Model No.</b>	BULLET2X20 @20W5000K	<b>Sample ID</b>	241216023-S1
<b>Operate time (Min.)</b>	30	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	24.8	<b>Humidity (%RH)</b>	40.1

<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using a type C goniophotometer and software.</p> <p>The ambient temperature shall be maintained at <math>25 \pm 1^\circ\text{C}</math>, measured at a point not more than 1 m from the sample and at the same height as the sample.</p> <p>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 <math>\pm 0.2</math> percent under load.</p> <p>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 <math>1.0^\circ</math> vertical intervals and <math>15^\circ</math> horizontal intervals.</p>

#### Test Conditions

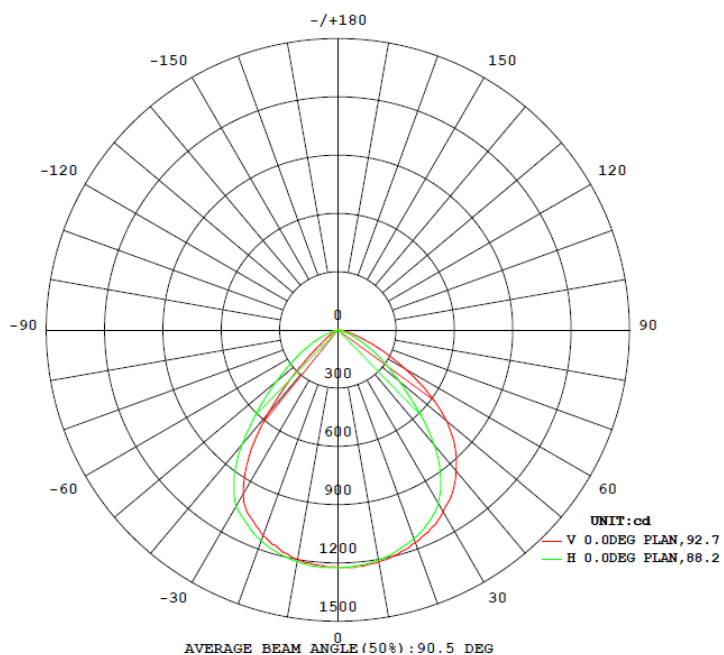
Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
<b>WORST CASE</b>	120.0	60.0	0.182	21.6	0.991
<b>NON-WORST CASE</b>	N/A	N/A	N/A	N/A	N/A

#### Test Result

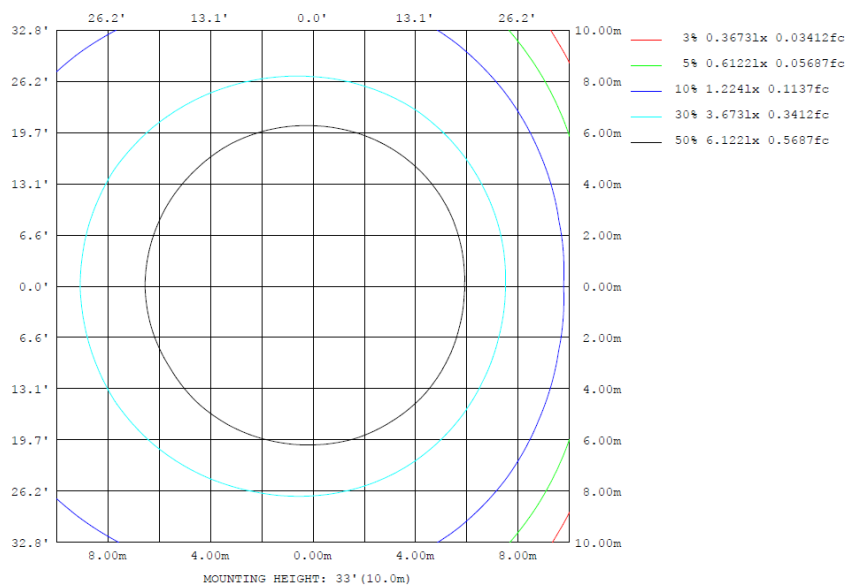
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement	NEMA Type
	C0-180	C90-270	C0-180	C90-270		(0°-90°)	
2404	124.1	129.1	92.5	88.5	111.3	100.0%	6H x 6V

## 4.1 Goniophotometer Test

### Lighting Distribution Curve



### Isolux Plot



## 4.1 Goniophotometer Test

### Zonal Lumen Summary

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\phi$ zone	$\phi$ total	$\%lum, lamp$
10	1199	1200	1203	1210	1212	1211	1212	1203	0- 10	116.1	116.1	4.83,4.83
20	1128	1128	1143	1152	1164	1158	1155	1140	10- 20	333.5	449.6	18.7,18.7
30	975.2	1005	1031	1058	1083	1063	1049	1016	20- 30	505.2	954.8	39.7,39.7
40	556.3	654.5	770.1	892.8	945.0	902.3	765.9	671.2	30- 40	572.9	1528	63.5,63.5
50	133.0	267.1	412.3	601.0	730.4	607.4	416.6	263.6	40- 50	458.3	1986	82.6,82.6
60	32.70	70.15	191.4	264.3	398.7	276.2	192.7	72.04	50- 60	265.9	2252	93.7,93.7
70	1.227	13.25	60.26	87.33	141.6	96.41	61.46	15.08	60- 70	113.3	2365	98.4,98.4
80	0.0481	2.286	5.402	14.98	33.68	19.14	11.31	2.974	70- 80	33.62	2399	99.8,99.8
90	0	0	0	0	0	0	0	0	80- 90	5.340	2404	100,100
100	0	0	0	0	0	0	0	0	90-100	0	2404	100,100
110	0	0	0	0	0	0	0	0	100-110	0	2404	100,100
120	0	0	0	0	0	0	0	0	110-120	0	2404	100,100
130	0	0	0	0	0	0	0	0	120-130	0	2404	100,100
140	0	0	0	0	0	0	0	0	130-140	0	2404	100,100
150	0	0	0	0	0	0	0	0	140-150	0	2404	100,100
160	0	0	0	0	0	0	0	0	150-160	0	2404	100,100
170	0	0	0	0	0	0	0	0	160-170	0	2404	100,100
180	0	0	0	0	0	0	0	0	170-180	0	2404	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)	Total (lm)	Percent
0-10	116.05	4.83%
10-20	333.52	18.70%
20-30	505.22	39.72%
30-40	572.85	63.55%
40-50	458.27	82.61%
50-60	265.87	93.67%
60-70	113.26	98.38%
70-80	33.62	99.78%
80-90	5.34	100.00%
90-100	0.00	100.00%
100-110	0.00	100.00%
110-120	0.00	100.00%
120-130	0.00	100.00%
130-140	0.00	100.00%
140-150	0.00	100.00%
150-160	0.00	100.00%
160-170	0.00	100.00%
170-180	0.00	100.00%

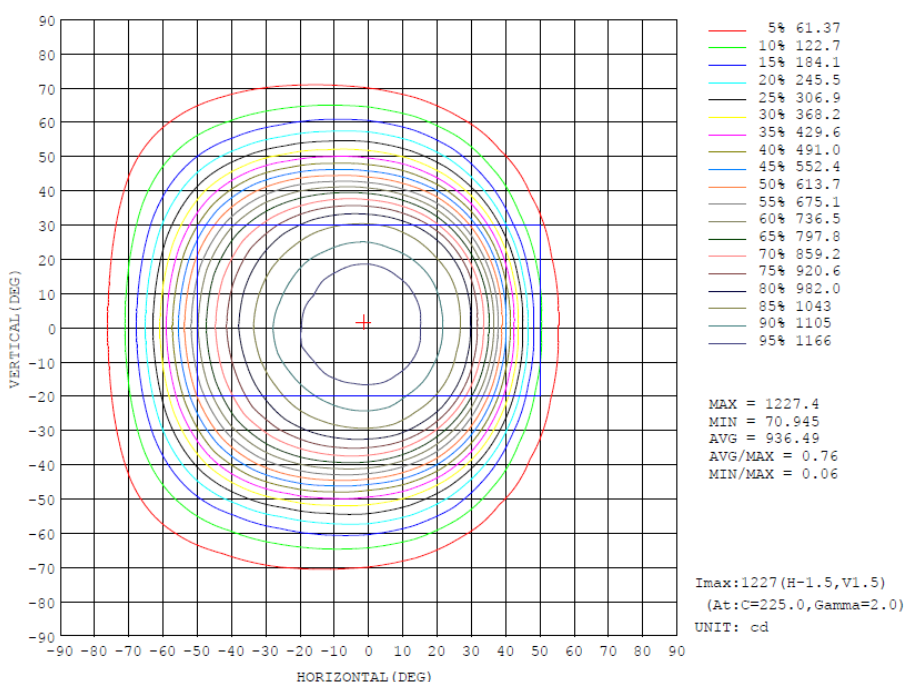


## 4.1 Goniophotometer Test

### Area Flux Diagram

		AREA FLUX DIAGRAM																		UNIT:lm			Φ t	Φ a
VERTICAL (DEG)	90	0.01	0.04	0.07	0.09	0.10	0.14	0.20	0.23	0.14	0.06	0.04	0.05	0.04	0.02	0.01	0.00	0.00	0.00	1.21	0.00			
	80	0.02	0.08	0.18	0.32	0.52	0.81	1.04	1.14	1.09	0.90	0.61	0.35	0.18	0.07	0.02	0.00	0.00	0.00	7.33	0.00			
	70	0.02	0.14	0.39	0.87	1.59	2.41	3.15	3.66	3.74	3.28	2.37	1.31	0.58	0.22	0.06	0.01	0.00	0.00	23.8	9.04			
	60	0.03	0.21	0.74	1.86	3.55	5.54	7.42	8.72	9.14	8.40	6.51	3.95	1.70	0.55	0.14	0.02	0.00	0.00	58.5	52.6			
	50	0.04	0.30	1.25	3.38	6.88	11.1	14.8	17.3	18.0	16.9	13.7	8.78	3.98	1.27	0.30	0.04	0.00	0.00	118	114			
	40	0.04	0.41	1.87	5.38	11.2	17.4	22.7	26.5	28.1	27.3	23.5	16.4	7.99	2.35	0.56	0.07	0.00	0.00	192	189			
	30	0.05	0.51	2.50	7.44	14.9	22.0	27.6	31.4	33.3	33.1	30.3	23.9	13.3	4.02	0.85	0.11	0.00	0.00	245	243			
	20	0.05	0.59	3.02	9.02	17.2	24.3	29.8	33.7	35.8	35.6	33.0	27.9	17.6	5.81	1.11	0.15	0.00	0.00	275	273			
	10	0.05	0.64	3.34	9.86	18.1	25.3	30.8	34.8	36.9	36.7	34.2	29.2	19.6	6.91	1.25	0.17	0.00	0.00	288	286			
	0	0.05	0.64	3.33	9.83	18.1	25.2	30.9	34.8	36.8	36.6	34.1	29.0	19.4	6.86	1.24	0.17	0.00	0.00	287	285			
	-10	0.05	0.59	2.98	8.92	17.0	24.0	29.6	33.5	35.6	35.4	32.7	27.6	17.1	5.73	1.08	0.14	0.00	0.00	272	270			
	-20	0.05	0.50	2.44	7.33	14.7	21.8	27.3	31.1	33.0	32.8	30.0	23.3	12.9	4.01	0.81	0.10	0.00	0.00	242	240			
	-30	0.04	0.40	1.80	5.25	11.0	17.3	22.5	26.1	27.8	27.0	23.2	16.2	8.00	2.35	0.52	0.05	0.00	0.00	190	187			
	-40	0.03	0.29	1.19	3.24	6.67	10.9	14.7	17.2	18.1	16.9	13.7	8.84	4.05	1.22	0.25	0.03	0.00	0.00	117	114			
	-50	0.03	0.20	0.70	1.72	3.33	5.27	7.14	8.53	9.06	8.41	6.58	4.03	1.68	0.49	0.12	0.02	0.00	0.00	57.3	51.4			
	-60	0.02	0.13	0.37	0.79	1.41	2.21	2.97	3.51	3.65	3.26	2.39	1.31	0.55	0.18	0.05	0.01	0.00	0.00	22.8	7.93			
	-70	0.02	0.08	0.17	0.28	0.41	0.66	0.91	1.06	1.01	0.82	0.54	0.30	0.14	0.06	0.02	0.00	0.00	0.00	6.49	0.00			
	-80	0.01	0.04	0.07	0.09	0.09	0.10	0.13	0.17	0.09	0.03	0.02	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.91	0.00			
	-90																							
		-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90				
Φ t		0.60	5.80	26.4	75.7	147	216	274	313	331	324	287	222	129	42.1	8.39	1.12	0.04	0.00	2404	---			
Φ a		0.00	0.33	20.6	70.6	141	211	268	308	326	318	282	217	123	34.4	0.29	0.00	0.00	0.00	---	2322			

### Isocandela





## 4.1 Goniophotometer Test

### Luminous Distribution Intensity Data

Table--1

UNIT: cd

H (DEG)	-90	-85	-80	-75	-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
V (DEG)	-180	-170	-160	-150	-140	-130	-120	-110	-100	-90	-80	-70	-60	-50	-40	-30	-20	-10	0
-180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-80	0.00	4.49	6.15	7.33	8.19	8.77	9.08	8.84	8.40	7.81	8.52	9.32	10.2	12.2	14.3	15.9	12.8	9.20	5.40
-70	0.00	6.36	9.38	12.6	15.7	19.0	22.7	26.5	30.9	35.3	42.9	50.3	56.5	61.0	63.9	65.4	65.2	63.4	60.3
-60	0.00	7.85	13.1	19.4	27.6	38.7	51.4	66.0	83.4	101	118	136	153	166	180	189	194	195	191
-50	0.00	9.40	17.1	28.4	46.6	68.7	98.0	133	175	219	262	306	346	375	402	419	425	425	412
-40	0.00	11.0	21.4	39.5	68.3	110	164	235	318	406	493	572	639	690	732	759	773	780	770
-30	0.00	12.3	25.7	51.2	92.4	156	245	355	479	604	716	801	870	925	968	999	1019	1030	1031
-20	0.00	13.3	29.6	61.3	116	201	320	465	617	748	852	932	991	1041	1080	1107	1128	1141	1143
-10	0.00	14.0	32.4	68.9	133	235	374	538	698	824	918	995	1058	1106	1143	1171	1189	1205	1203
0	0.00	14.4	33.7	72.3	142	251	399	571	730	853	945	1026	1083	1129	1164	1195	1212	1221	1224
10	0.00	14.1	32.6	69.5	135	237	376	541	704	832	925	1006	1061	1104	1142	1170	1196	1208	1212
20	0.00	13.4	29.9	62.3	118	205	325	471	627	758	860	942	1006	1051	1085	1115	1137	1151	1155
30	0.00	12.4	26.1	52.1	94.9	162	253	362	487	613	723	808	879	938	983	1017	1037	1047	1049
40	0.00	11.1	21.8	40.8	71.0	116	172	243	327	415	502	580	645	695	734	760	775	779	766
50	0.00	9.51	17.4	29.6	48.4	72.7	105	143	185	229	274	317	357	385	410	424	429	429	417
60	0.00	7.96	13.6	20.2	29.3	40.8	55.3	72.7	91.5	110	129	146	162	175	187	196	199	198	193
70	0.00	6.44	9.69	13.3	16.4	20.0	24.3	29.6	36.2	43.1	50.5	57.0	62.2	65.8	67.9	68.7	67.9	65.4	61.5
80	0.00	4.48	6.33	7.69	8.51	8.95	8.97	9.50	9.71	9.68	12.0	14.2	16.2	17.4	18.2	18.5	16.3	13.9	11.3
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

H (DEG)		UNIT: cd																	
V (DEG)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
-180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-80	4.46	3.39	2.28	2.40	2.60	2.90	2.26	1.67	1.14	0.73	0.40	0.17	0.11	0.08	0.07	0.07	0.06	0.00	0.00
-70	54.8	48.3	40.8	31.5	22.8	15.9	11.1	7.29	4.63	2.80	1.46	0.62	0.29	0.12	0.05	0.06	0.07	0.00	0.00
-60	178	161	139	111	82.3	56.5	35.7	20.7	12.9	7.71	4.01	1.89	0.76	0.23	0.07	0.05	0.06	0.00	0.00
-50	394	365	323	273	219	160	103	60.4	34.2	17.5	8.73	4.05	1.48	0.37	0.11	0.05	0.06	0.00	0.00
-40	742	695	632	550	447	333	223	136	74.3	39.1	18.8	7.61	2.37	0.60	0.17	0.06	0.06	0.00	0.00
-30	1022	994	939	848	727	582	416	253	132	68.9	35.5	14.1	4.27	0.92	0.21	0.06	0.05	0.00	0.00
-20	1136	1110	1079	1037	957	801	609	401	212	95.4	50.2	23.4	6.71	1.25	0.23	0.06	0.05	0.00	0.00
-10	1197	1174	1149	1098	1043	937	751	512	283	125	61.7	30.5	9.14	1.41	0.20	0.06	0.05	0.00	0.00
0	1216	1199	1167	1128	1065	975	801	556	304	133	64.4	32.7	9.86	1.23	0.13	0.05	0.05	0.00	0.00
10	1204	1184	1153	1107	1051	953	768	527	284	128	62.5	31.4	10.0	1.68	0.27	0.07	0.05	0.00	0.00
20	1142	1122	1087	1045	978	827	631	410	211	98.2	51.9	25.2	8.04	1.69	0.34	0.09	0.06	0.00	0.00
30	1037	1009	958	869	745	596	423	250	131	70.9	37.8	16.8	5.21	1.39	0.33	0.09	0.06	0.00	0.00
40	740	692	631	552	446	330	219	134	76.3	41.5	21.6	9.53	3.38	0.95	0.27	0.09	0.06	0.00	0.00
50	396	366	322	270	214	156	102	62.7	36.9	20.2	10.8	5.27	2.11	0.61	0.19	0.08	0.07	0.00	0.00
60	179	161	138	110	81.6	57.1	37.4	23.0	14.7	9.31	5.18	2.63	1.15	0.39	0.12	0.07	0.07	0.00	0.00
70	55.3	48.2	40.4	31.9	23.8	17.2	12.5	8.61	5.65	3.64	2.07	0.99	0.47	0.19	0.08	0.08	0.08	0.00	0.00
80	8.86	6.27	3.84	3.75	3.79	3.99	3.13	2.34	1.63	1.07	0.61	0.27	0.17	0.12	0.10	0.09	0.07	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

## 4.0 LM-79 Measurement and Test Results

### 4.2 THD and PF Test

<b>Model No.</b>	BULLET2X20 @20W5000K	<b>Sample ID</b>	241216023-S1
<b>Temperature (°C)</b>	25.4	<b>Humidity (%RH)</b>	41.0

<b>Test Method</b>
<p>The samples were tested according to the and Ansi C82.77: 2002 and ANSI C82.77-10:2020</p> <p>The total harmonic distortion shall be measured to the 40th order.</p> <p>The ambient temperature shall be maintained at 25±1°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 was calculated.</p>

### Test Results

<b>Voltage (Vac)</b>	<b>Frequency (Hz)</b>	<b>Current (A)</b>	<b>Power (W)</b>	<b>Power Factor</b>	<b>iTHD(%)</b>
120.0	60.0	0.182	21.6	0.991	13.48

## 5.0 Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2024-11-07	2025-11-06
NTC-F01-006	2.0 meter Integrating Sphere	2024-11-07	2025-11-06
NTC-F01-012	Standard Lamp	2024-10-28	2025-10-27
NTC-F01-013	Standard Lamp	2024-10-28	2025-10-27
NTC-F01-031	Digital Power Meter	2024-08-06	2025-08-05
NTC-F01-019	Temperature & Humidity Meter	2024-10-29	2025-10-28

\*\*\*\*\*End of Report\*\*\*\*\*