



LM-79-08 Test Report

For

ARTIKA FOR LIVING INC

(Brand Name: ARTIKA)

1756 50th avenue, Lachine, Québec, Canada H8T 2V5

**Model name(s):
4FM-BP-XXXXXX**

Report Type: Testing and Report According to IES LM-79-2008

**Type of
Luminaire:** LED Luminaire

Report Date: 2021-12-30
Ningbo TengLi Testing Co., Ltd

Prepared By: 2nd floor, Block B, Ningbo Testing and Certification Base,
No. 66 Qingyi Road, Ningbo National Hi-Tech Zone,
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Test & Report By:

Nick Song

Engineer: Nick Song

Review By:

Garman Mo

Manager: Garman Mo

Note: 1. The results contained in this report pertain only to the tested samples

2. This report does not imply product certification, approval, or endorsement by A2LA, or any agency of the Federal Government.



1.1 Product Information:		
Model Number	4FM-BP-XXXXXX	
Remark	"XXXXXX" can be A to Z and/or 0 to 9 and or/blank(commerical code)	
Representative (Tested) Model	4FM-BP-MW	
Model Difference	N/A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Luminaires	
LED Manufacturer	Lextar Electronics Corp	
LED Model	PC35H13	
Dimming	Dimmable	
Integral Controls	N/A	
Sample Number	STD211241NB-A1(3000K)	
Date of Receipt	Dec.20,2021	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

1.2 Rated Values:	
Rated Voltage / Frequency	120Vac, 50/60Hz
Nominal Power	12W
Rated Initial Lamp Lumen	--
Declared CCT	3000K

1.3 Test Specifications:

Test item	<ol style="list-style-type: none"> 1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none"> 1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source

1.4 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the 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 sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity 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 sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.



2.1 Electrical, Photometric and Chromaticity Measurements

Test date	2021-12-30	Test Ambient:	25 ± 1 ° C
Test Orientation	As intended	Stabilization Time (min)	45
Model Number	4FM-BP-MW	Total Operating Time(min)	60

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD211241 NB-A1	120.0	60.01	0.1035	12.20	0.9825	14.12

Photometric Measurement – Goniophotometer Method(Tset Dstance: 26.00m):

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1013.1
Luminous Efficacy (lm/W)	83.06
Beam Angle (°)	109.6
Center Beam Candle Power (cd)	388



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	304.2	30%
0-40	498.9	49.3%
0-60	869.7	85.9%
60-90	143.3	14.1%
70-100	38.3	3.8%
90-120	0.0	0%
0-90	1,012.9	100%
90-180	0.0	0%
0-180	1,012.9	100%

Lumens Per Zone					
Zone	Lumens	%Total	Zone	Lumens	%Total
0-10	36.8	3.6%	90-100	0.0	0%
10-20	105.9	10.5%	100-110	0	0%
20-30	161.5	15.9%	110-120	0	0%
30-40	194.8	19.2%	120-130	0	0%
40-50	199.7	19.7%	130-140	0	0%
50-60	171.1	16.9%	140-150	0	0%
60-70	105.0	10.4%	150-160	0	0%
70-80	34.3	3.4%	160-170	0	0%
80-90	4.0	0.4%	170-180	0	0%

Photometric Data

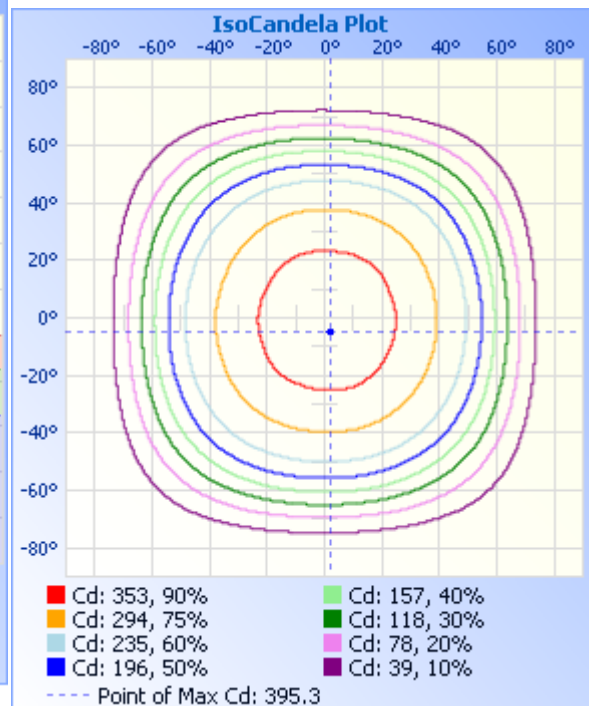
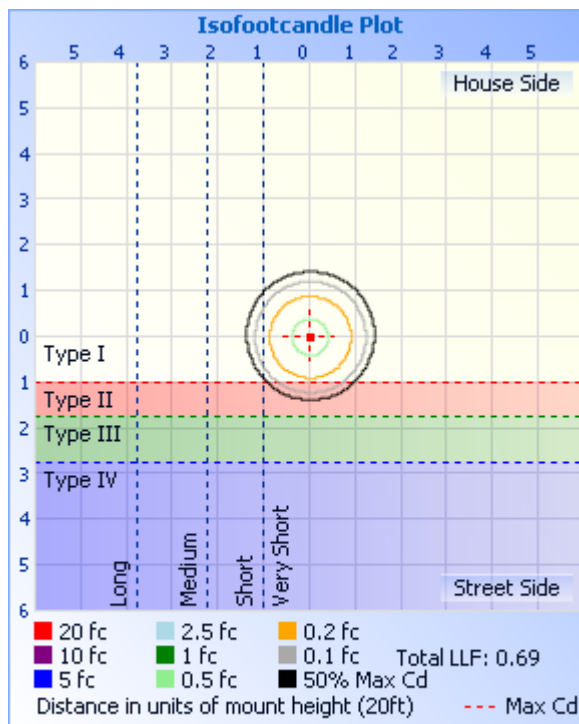
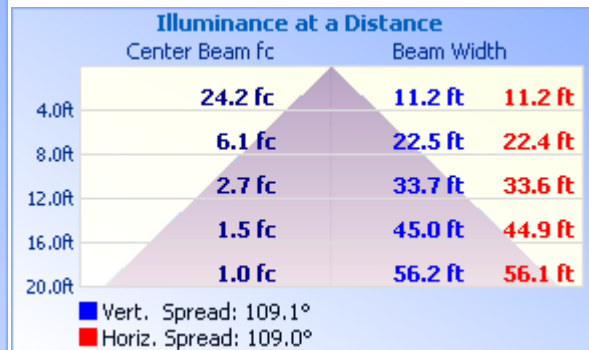
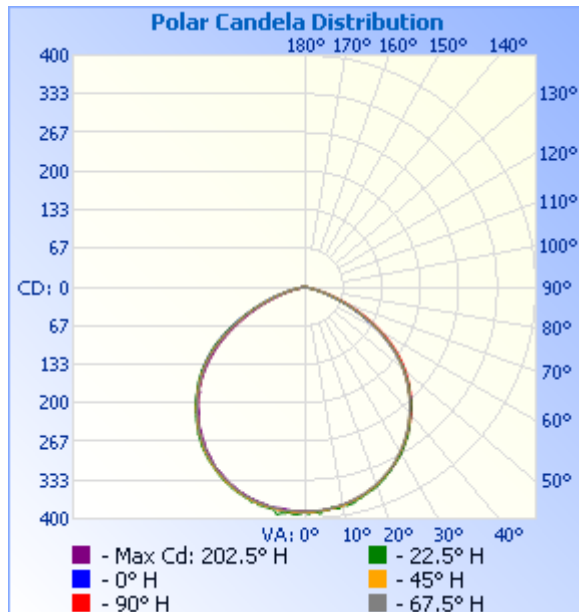




Table--1

UNIT: cd

C (DEG) Y (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	388	388	388	388	388	388	388	388	388	388	388	388	388	388	388	388			
5	387	385	381	387	386	386	387	385	386	385	387	386	386	391	388	387			
10	383	381	383	383	382	381	383	381	382	380	383	382	383	385	384	383			
15	375	375	379	375	374	376	374	373	373	373	375	375	375	378	377	375			
20	365	365	367	364	364	365	363	362	363	362	365	365	365	368	366	365			
25	352	350	353	350	349	351	348	347	349	349	352	351	352	354	353	352			
30	334	332	333	332	331	333	330	329	331	331	334	334	335	337	335	334			
35	313	310	311	310	308	312	308	307	310	311	314	314	314	316	314	313			
40	287	284	287	285	283	284	283	282	286	286	290	290	289	291	289	288			
45	259	256	259	257	255	256	255	254	259	259	263	263	263	264	263	260			
50	228	227	227	225	223	225	224	223	228	230	233	234	233	234	232	230			
55	191	189	188	187	187	188	188	189	194	196	199	200	199	198	196	194			
60	147	145	143	142	143	145	146	147	153	155	158	159	158	158	154	150			
65	102	99.5	98.2	97.1	98.1	101	102	104	110	112	114	114	114	113	110	106			
70	61.3	58.8	57.6	57.0	57.5	59.8	61.3	63.3	68.0	70.2	71.6	71.7	71.0	70.0	67.8	65.4			
75	28.1	26.4	25.4	24.9	24.8	26.1	27.7	29.5	32.9	34.7	36.0	35.9	35.5	34.7	33.4	31.5			
80	8.05	7.66	7.47	7.37	7.43	7.60	7.96	8.41	10.8	11.7	12.3	12.4	12.2	11.8	11.1	10.3			
85	2.91	2.67	2.52	2.43	2.44	2.58	2.78	3.04	3.54	3.82	4.04	4.09	4.04	3.90	3.65	3.35			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.09	0.19	0.26	0.25	0.19	0.09	0.01			
95	0.00	0.00	0.00	0.00	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			
105	0.00	0.00	0.00	0.00	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			
115	0.00	0.00	0.00	0.00	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			
125	0.00	0.00	0.00	0.00	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			
135	0.00	0.00	0.00	0.00	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			
145	0.00	0.00	0.00	0.00	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			
155	0.00	0.00	0.00	0.00	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			
165	0.00	0.00	0.00	0.00	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			
175	0.00	0.00	0.00	0.00	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			



2.3 Electrical, Photometric and Chromaticity Measurements

Test date	2021-12-30	Test Ambient:	25 ± 1 ° C
Test Orientation	As intended	Stabilization Time (min)	45
Model Number	4FM-BP-MW	Total Operating Time(min)	46

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD211241 NB-A1	120.0	60	0.1044	12.32	0.9835	14.02

Chromaticity Measurement - Sphere-Spectroradiometer

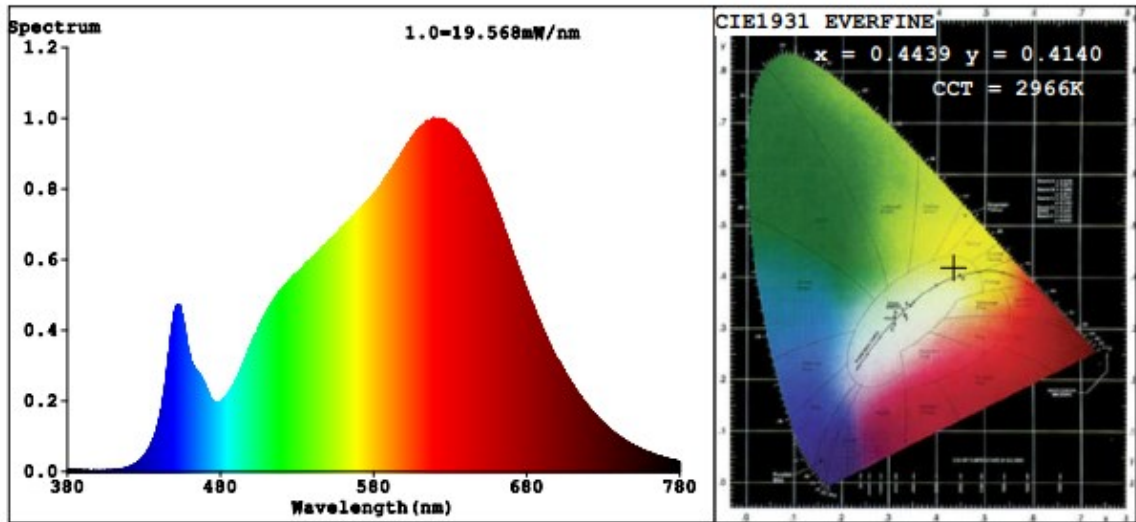
Method(Self-absorption:1.0183)(4π geometry):

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	2966
Duv	0.0030
Chromaticity (x, y)	x=0.4439 y=0.4140
Chromaticity (u', v')	u'=0.2508 v'=0.5262
Color Rendering Index (CRI)	92.3
R9	60
Rg	98
Rf	92
Rcs,h1(%)	-5

Photometric Measurement –Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1028
Luminous Efficacy (lm/W)	83.44

Spectral Power Distribution & Chromaticity Diagram



R1 =92	R2 =95	R3 =96	R4 =93	R5 =91	R6 =94	R7 =94	
R8 =83	R9 =60	R10=87	R11=94	R12=76	R13=93	R14=97	R15=88

TM30

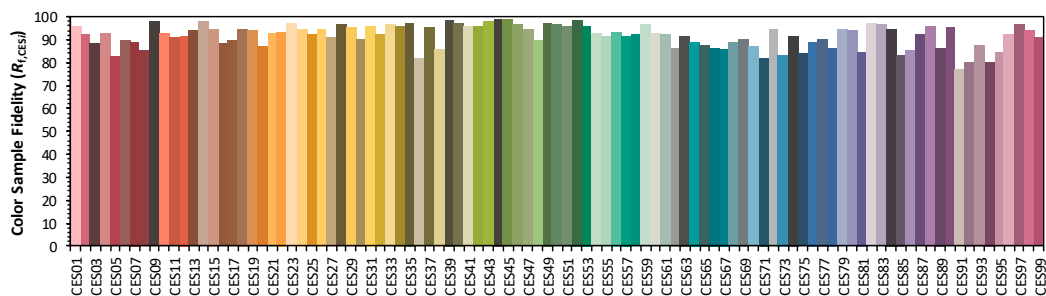
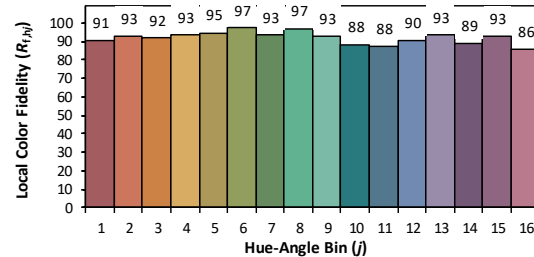
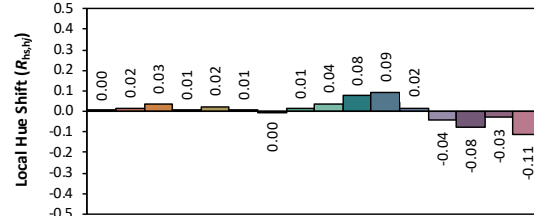
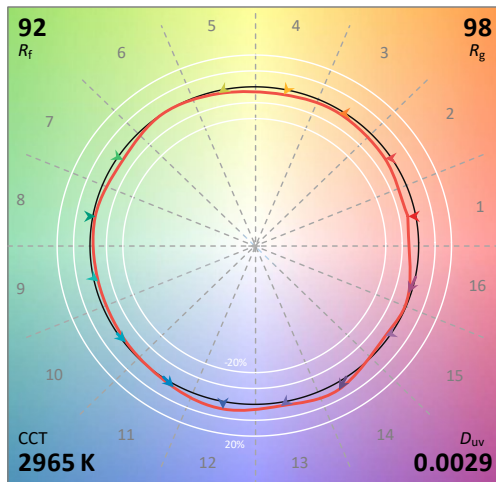
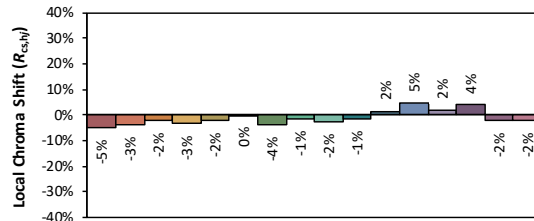
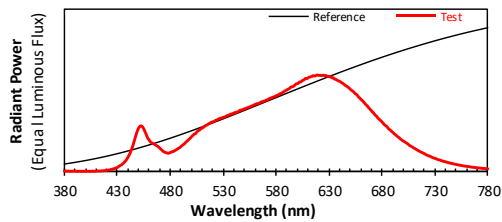
ANSI/IES TM-30-18 Color Rendition Report

Source: PC35H13

Manufacturer: ARTIKA FOR LIVING INC

Date: 2021-12-30

Model: 4FM-BP-MW



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4439

y 0.4139

u' 0.2508

v' 0.5262

CIE 13.3-1995
(CRI)

R_a 92

R_g 60

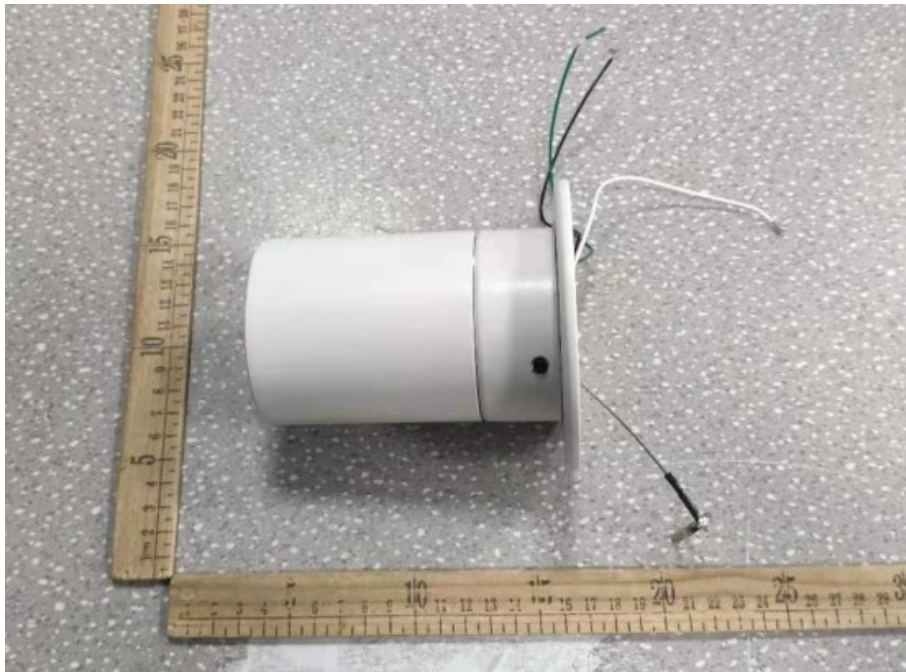
lors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.0



3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-702	2 meter Integrating Sphere	Verified by D204 standard lamp	
ST-R-701	Spectral analysis system HAAS-1200	Verified by D204 standard lamp	
ST-R-703	Standard Lamp D204	2021-02-21	2022-02-20
ST-R-704	Power Meter for Integrating Sphere	2021-01-05	2022-01-04
ST-R-714	Goniophotometer system	Verified by D908S standard lamp	
ST-R-710	Standard Lamp D908S	2021-02-21	2022-02-20
ST-R-711	Power Meter for Goniophotometer	2021-01-05	2022-01-04
Uncertainty(K=2): Photometric Measurement (Sphere):3.94% Chromaticity Measurement(Sphere):48.2K Photometric Measurement(Goniophotometer):3.96%			

4. Product Photo



***** END OF REPORT *****