



## LM-79-08 Test Report

For

### ARTIKA FOR LIVING INC

(Brand Name: ARTIKA)

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

### Model name(s): ST-DS-XXXXXX

**Report Type:** Testing and Report According to IES LM-79-2008  
**Type of Luminaire:** LED luminaire  
**Report Date:** 2022-04-29  
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,  
Ningbo, Zhejiang

Test & Report By:

Review By:

Engineer: Nick Song

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.



<b>1.1 Product Information:</b>		
Model Number	ST-DS-XXXXXX	
Remark	"XXXXXX" can be A to Z and/or 0 to 9 and or/blank (commerical code)	
Representative (Tested) Model	ST-DS-MB	
Model Difference	N/A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED luminaire	
LED Manufacturer	N/A	
LED Model	N/A	
Dimming	Dimmable	
Sample Number	STD220452NB-A1	
Date of Receipt	Apr.27,2022	
Luminaire Aperture (for Downlight Retrofits)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

<b>1.2 Rated Values:</b>	
Rated Voltage / Frequency	120Vac, 60Hz
Nominal Power	4.5W
Rated Initial Lamp Lumen	--
Declared CCT	3000K



### 1.3 Test Specifications:

Test item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Correlated Color Temperature</li> <li>5. Color Rendering Index</li> <li>6. Chromaticity Coordinate</li> <li>7. Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>4. CIE 15-2004 Technical Report Colorimetry</li> <li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> </ol>

### 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  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  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.



**2.1.1 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2022-04-29	<b>Test Ambient:</b>	25±1 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	45
<b>Model Number</b>	ST-DS-MB	<b>Total Operating Time(min)</b>	55

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
STD220452 NB-A1	120.0	60	0.0419	4.576	0.9108

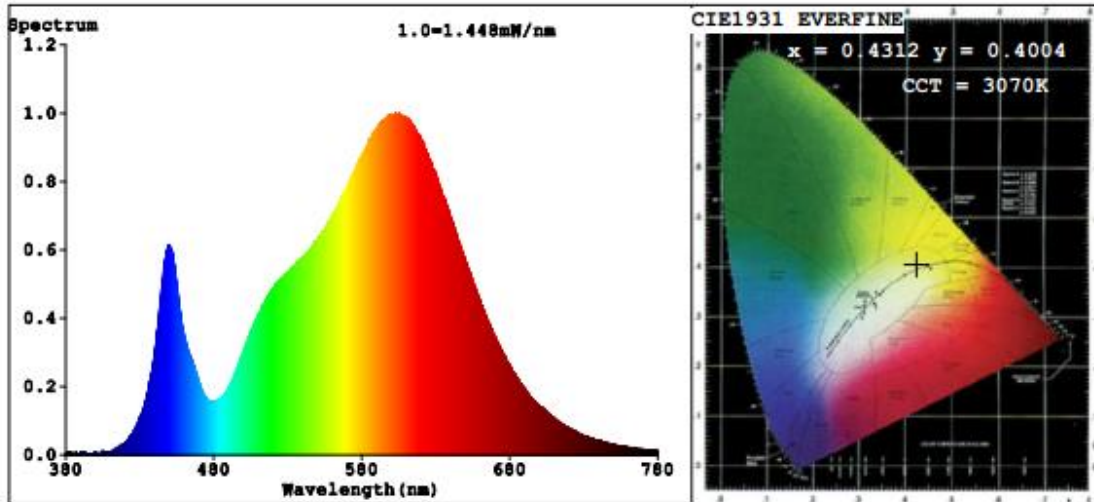
**Chromaticity Measurement - Sphere-Spectroradiometer Method:  
 (Self-absorption:1.0333)(4π geometry):**

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3070
Duv	-0.0006
Chromaticity (x, y)	x=0.4312 y=0.4004
Chromaticity (u', v')	u'=0.2484 v'=0.5191
Color Rendering Index (CRI)	82.0
R9	5

**Photometric Measurement – Goniophotometer Method:**

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	76.886
Luminous Efficacy (lm/W)	16.8
Beam Angle (°)	193.4
Center Beam Candle Power (cd)	0

### Spectral Power Distribution & Chromaticity Diagram



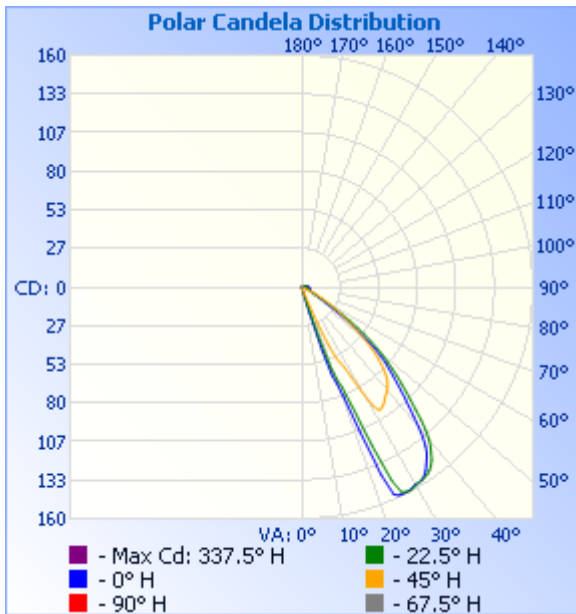
R1 =93 R2 =96 R3 =99 R4 =93 R5 =93 R6 =96 R7 =91  
R8 =79 R9 =56 R10=91 R11=94 R12=85 R13=94 R14=99 R15=88

### Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	%Luminaire
0-30	14.5	18.9%
0-40	39.4	51.3%
0-60	71.6	93.1%
60-90	4.4	5.7%
70-100	2.2	2.9%
90-120	0.9	1.2%
0-90	75.9	98.8%
90-180	0.9	1.2%
0-180	76.9	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	%Total
0-10	0	0.0%	90-100	0.4	0.5%
10-20	0.8	1.0%	100-110	0.4	0.5%
20-30	13.8	17.9%	110-120	0.2	0.2%
30-40	24.9	32.4%	120-130	0.0	0%
40-50	21.8	28.3%	130-140	0	0%
50-60	10.4	13.5%	140-150	0	0%
60-70	2.5	3.3%	150-160	0	0%
70-80	1.0	1.3%	160-170	0	0%
80-90	0.8	1.1%	170-180	0	0%

**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width	
4.0ft	0 fc	1.9 ft	4.1 ft
8.0ft	0 fc	3.9 ft	8.1 ft
12.0ft	0 fc	5.8 ft	12.2 ft
16.0ft	0 fc	7.8 ft	16.3 ft
20.0ft	0 fc	9.7 ft	20.4 ft

■ Vert. Spread: 27.2°  
■ Horiz. Spread: 53.9°

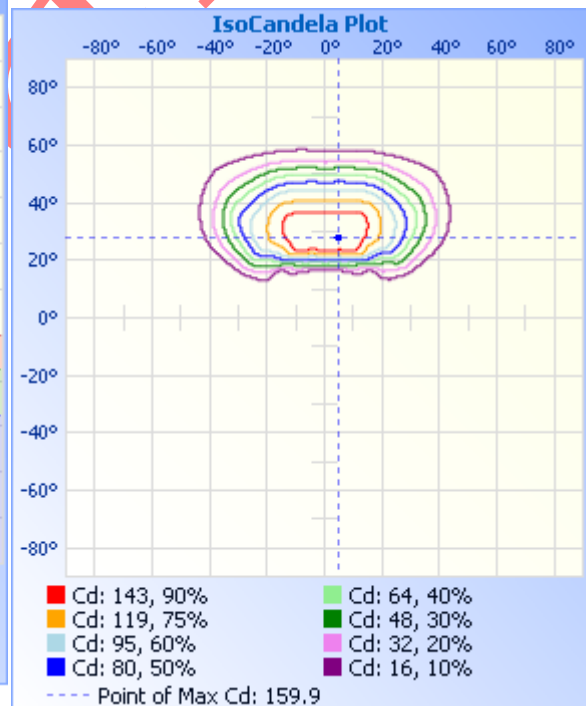
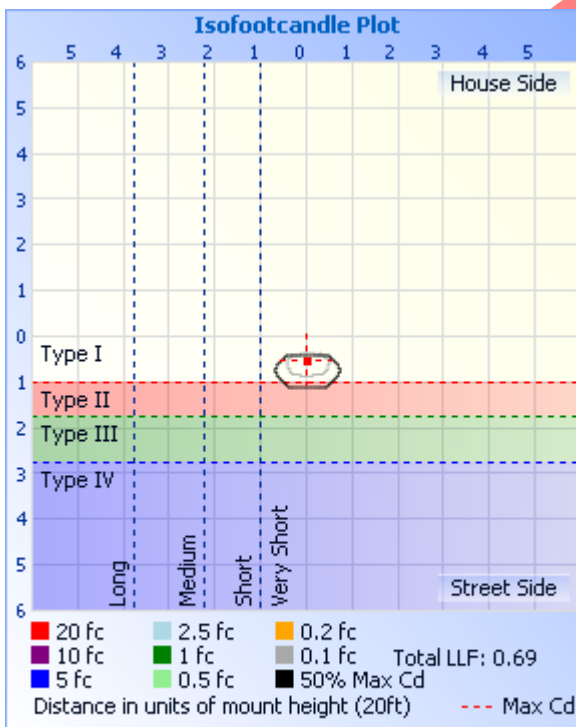
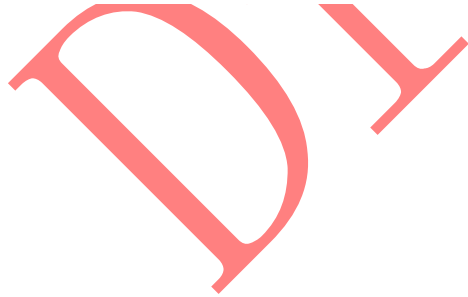




Table--1 UNIT: cd

C (DEG) γ (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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.81	1.29	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.60	1.18	60.6	70.7	59.0	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	40.4	150	159	147	45.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	71.3	158	157	158	83.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.27	89.7	154	150	154	98.6	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.62	83.4	138	126	137	92.2	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.83	72.7	104	92.8	102	80.1	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	1.02	52.8	73.4	65.6	73.0	58.4	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	1.00	31.4	41.2	29.5	40.7	34.5	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.81	17.4	14.9	11.9	15.4	19.0	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.59	6.75	6.65	7.51	7.38	7.26	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.35	2.06	4.37	6.23	4.78	2.24	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.13	0.65	3.67	5.69	3.94	0.70	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.41	3.29	5.34	3.59	0.41	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.30	2.97	4.96	3.24	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.24	2.72	4.61	2.91	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.26	0.00	0.03	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	2.13	3.75	2.32	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	1.67	2.99	1.86	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	1.21	2.21	1.32	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	0.81	0.00	0.89	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	0.46	0.00	0.60	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







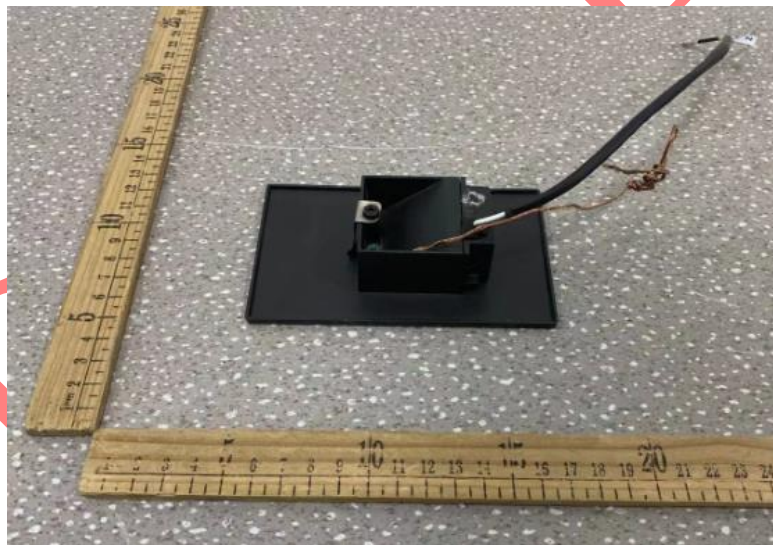
**3. Test Equipment**

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	2022-01-14	2023-01-13
ST-R-704	Power Meter for Integrating Sphere	2022-01-03	2023-01-02
ST-R-714	Goniophotometer system	Verified by D908S standard lamp	
ST-R-710	Standard Lamp D908S	2022-01-14	2023-01-13
ST-R-711	Power Meter for Goniophotometer	2022-01-03	2023-01-02
Uncertainty(K=2): Photometric Measurement (Sphere):3.94% Chromaticity Measurement(Sphere):48.2K Photometric Measurement(Goniophotometer):3.96%			

DRAFT



#### 4. Product Photo



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