



## LM-79-08 Test Report

For

**ARTIKA FOR LIVING INC**

**(Brand Name: ARTIKA)**

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

**Model name(s):**  
**17OUT-GL-XXXXXX**

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

**Type of  
Luminaire:** LED luminaire

**Report Date:** 2022-07-27  
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:

*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	17OUT-GL-XXXXXX	
Remark	"XXXXXX" can be A to Z and/or 0 to 9 and or/blank (commerical code)	
Representative (Tested) Model	17OUT-GL-PMB	
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	STD220733NB-A1	
Date of Receipt	July.25,2022	
Luminaire Aperture (for Downlight Retrofits)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

1.2 Rated Values:	
Rated Voltage / Frequency	120-347Vac, 60Hz
Nominal Power	20W
Rated Initial Lamp Lumen	--
Declared CCT	3500K



### 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

Test date	2022-07-26	Test Ambient:	25±1 ° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	17OUT-GL-PMB	Total Operating Time(min)	75

#### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
STD220733	120.1	60	0.1625	19.44	0.9963
NB-A1	347.1	60	0.0605	19.97	0.9511

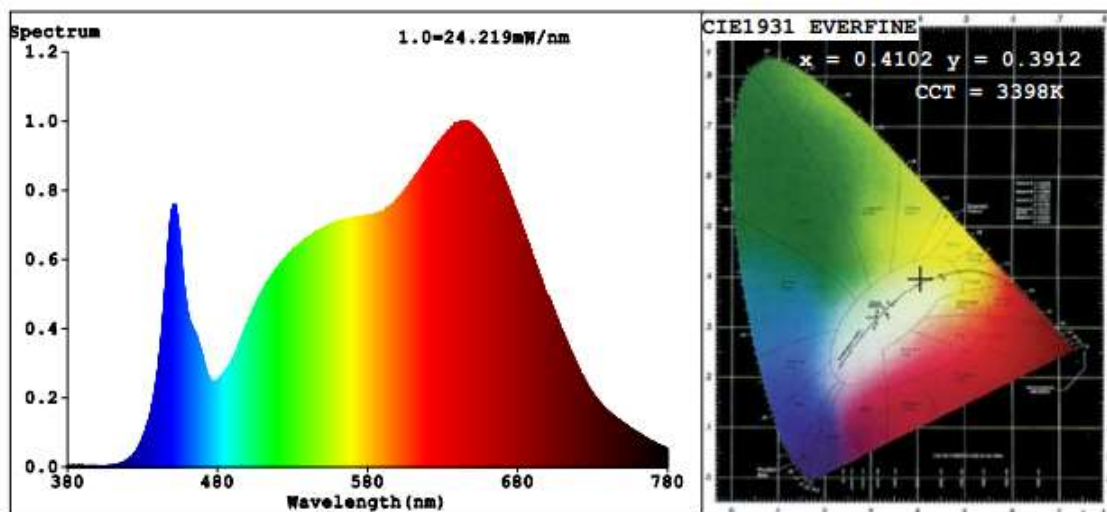
#### Chromaticity Measurement - Sphere-Spectroradiometer Method: (Self-absorption:1.1933)(4 $\pi$ geometry):

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3398
Duv	-0.0008
Chromaticity (x, y)	x=0.4102 y=0.3912
Chromaticity (u', v')	u'=0.2387 v'=0.5122
Color Rendering Index (CRI)	96.6
R9	95
Rg	103
Rf	95
Rcs,h1(%)	5

#### Photometric Measurement – Goniophotometer Method:

Parameter	Result	
Test Voltage (V)	120	277
Frequency (Hz)	60	60
Total Luminous (lm)	1101.7	1080.9
Luminous Efficacy (lm/W)	56.68	54.13
Beam Angle (°)	188.2	
Center Beam Candle Power (cd)	158	

## Spectral Power Distribution & Chromaticity Diagram



R1 =100 R2 =97 R3 =92 R4 =97 R5 =98 R6 =95 R7 =97  
R8 =97 R9 =95 R10=92 R11=96 R12=78 R13=99 R14=95 R15=98

## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	%Luminaire
0-30	128.5	11.7%
0-40	220.9	20%
0-60	455.5	41.3%
60-90	356.5	32.4%
70-100	309.4	28.1%
90-120	215.4	19.6%
0-90	812.0	73.7%
90-180	289.9	26.3%
0-180	1,101.8	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	%Total
0-10	15.0	1.4%	90-100	80.3	7.3%
10-20	43.7	4.0%	100-110	66.3	6%
20-30	69.8	6.3%	110-120	68.9	6.2%
30-40	92.4	8.4%	120-130	39.8	3.6%
40-50	111.0	10.1%	130-140	21.7	2%
50-60	123.6	11.2%	140-150	9.2	0.8%
60-70	127.3	11.6%	150-160	3.5	0.3%
70-80	120.7	11.0%	160-170	0.3	0%
80-90	108.4	9.8%	170-180	0.0	0%

## Photometric Data

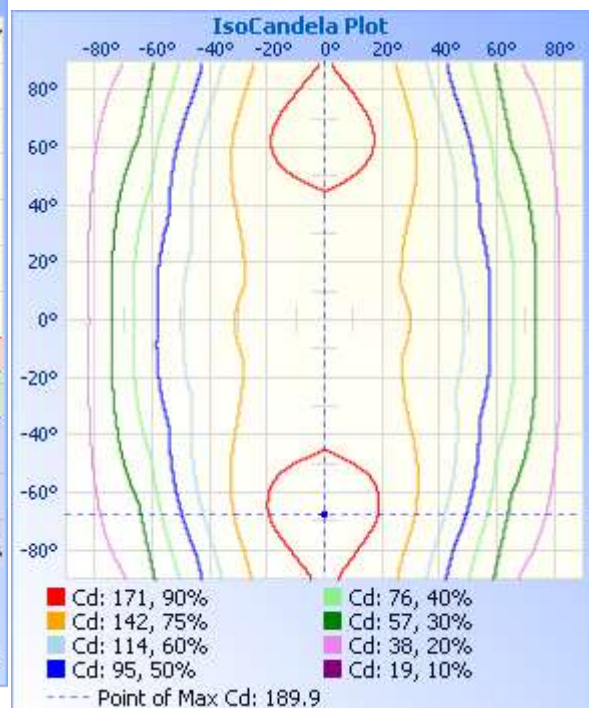
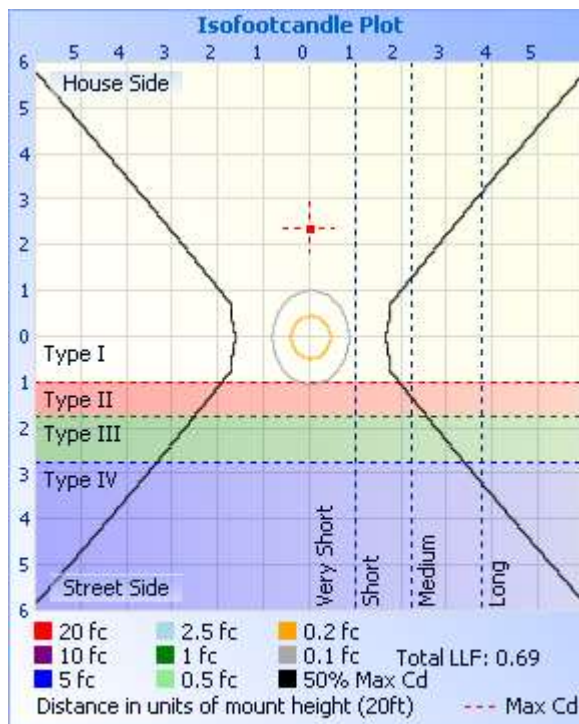
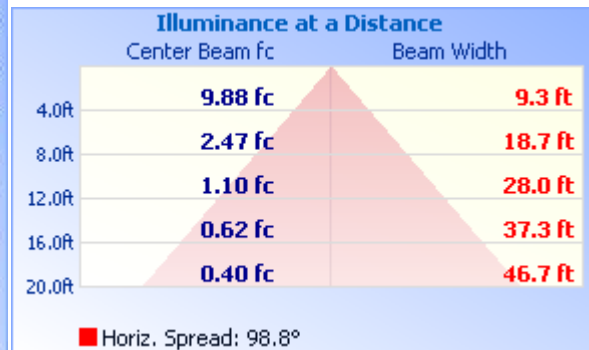
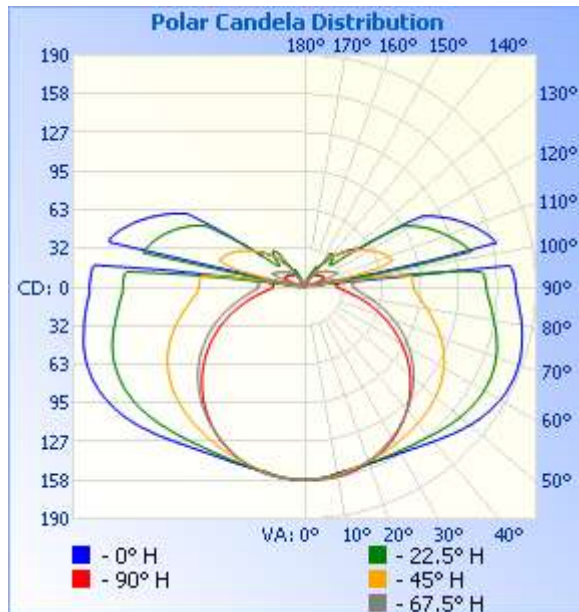


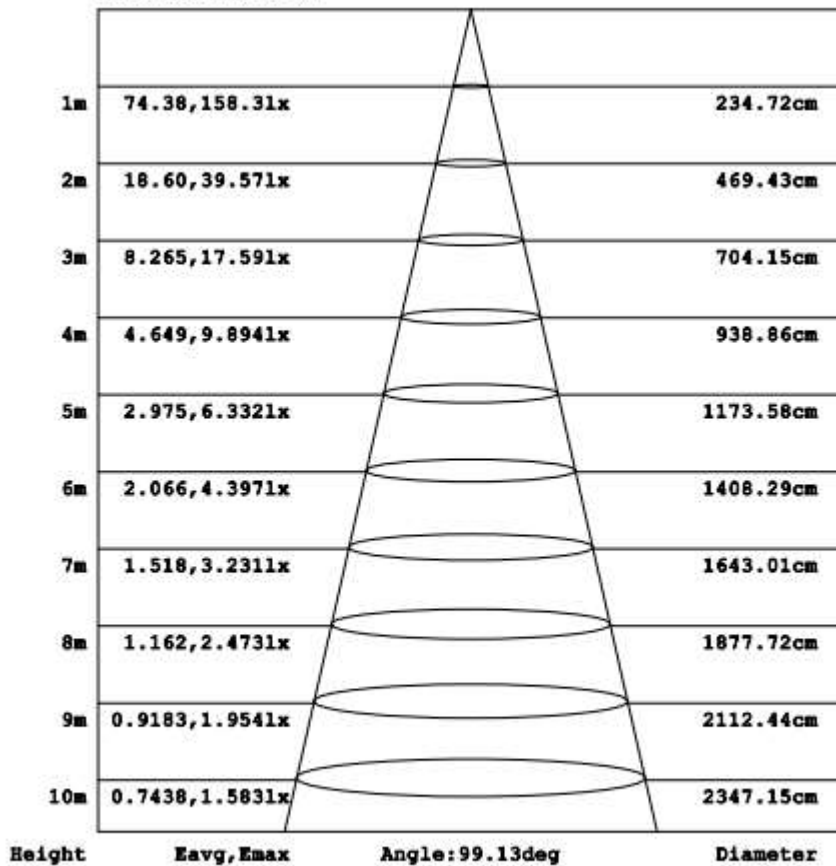




Table--1 UNIT: cd

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	158	158	158	158	158	158	158	158	158	158	158	158	158	158	158	158		
5	158	158	157	157	157	157	158	158	158	158	158	158	158	158	157	157		
10	157	156	156	155	155	155	156	157	158	158	157	156	156	156	156	156		
15	155	154	153	154	154	154	154	155	156	156	155	155	154	154	154	154		
20	151	151	151	153	154	154	152	152	153	153	153	154	155	154	152	151		
25	147	146	149	153	155	154	151	148	149	149	151	155	156	154	150	147		
30	142	141	147	154	157	155	149	143	144	144	149	156	157	155	148	142		
35	135	135	145	156	160	157	147	137	138	138	148	157	161	157	146	136		
40	127	129	143	159	165	160	145	131	131	132	146	160	166	159	144	130		
45	119	122	141	162	171	163	143	124	122	125	143	163	171	162	141	122		
50	110	114	138	165	176	166	140	117	113	117	141	167	177	166	139	114		
55	99.4	105	134	167	181	169	137	108	103	109	137	169	183	168	135	106		
60	88.3	95.8	129	168	185	170	132	98.8	91.5	99.0	132	171	187	169	130	96.0		
65	76.5	85.5	123	167	187	170	126	88.5	79.8	88.5	126	171	189	169	124	85.6		
70	64.3	74.6	116	165	187	167	119	77.4	67.5	77.4	119	169	190	167	116	74.5		
75	52.1	63.4	108	161	185	163	111	66.0	54.9	65.9	111	165	188	163	108	63.1		
80	40.7	52.8	99.4	156	181	158	102	55.1	43.0	54.8	102	160	184	158	99.1	52.3		
85	31.3	44.2	92.2	151	177	153	94.6	45.9	33.1	45.4	94.4	155	180	153	91.3	43.4		
90	25.9	38.9	87.9	148	173	149	89.3	39.8	26.3	39.1	89.2	152	177	149	86.7	37.9		
95	26.2	38.8	87.1	142	171	145	88.4	39.7	26.4	39.1	88.7	149	175	146	85.9	37.9		
100	26.0	27.5	2.22	43.6	7.34	49.4	16.0	33.3	26.5	35.2	13.2	18.6	9.58	24.8	18.1	31.9		
105	6.03	5.46	73.3	117	158	135	66.6	5.57	9.81	1.08	67.1	120	163	132	62.9	9.12		
110	2.17	25.7	72.0	111	147	124	73.0	16.9	0.75	15.5	74.3	112	151	124	71.4	17.7		
115	18.0	27.8	66.7	106	133	113	67.7	28.1	17.9	28.8	69.1	104	137	114	66.2	27.3		
120	17.2	24.8	59.8	97.9	117	100	60.6	25.1	17.1	25.6	62.1	95.9	121	101	59.5	24.3		
125	16.2	22.1	52.1	41.4	53.9	60.6	52.8	22.6	16.0	22.4	53.9	51.3	60.1	57.6	51.5	21.3		
130	15.0	19.5	43.7	30.9	46.5	28.2	44.5	19.9	14.9	19.4	45.0	27.9	43.7	27.3	43.1	18.7		
135	13.7	16.7	35.4	42.3	37.4	32.9	36.2	17.1	13.6	16.5	35.9	35.3	35.1	34.6	34.9	16.2		
140	12.3	14.0	20.8	39.6	28.5	35.0	25.4	14.3	12.3	13.5	23.9	35.5	26.6	38.9	22.7	13.9		
145	10.8	11.1	12.2	13.9	20.6	16.3	12.9	11.4	10.7	10.3	12.1	0.32	19.6	11.0	12.0	11.5		
150	9.17	8.48	10.1	18.9	3.84	19.5	9.48	8.09	8.46	7.82	8.73	16.4	3.01	9.93	7.94	8.49		
155	7.34	6.58	5.18	11.5	8.66	12.0	4.74	6.25	6.57	6.26	5.64	9.16	8.89	10.3	8.61	4.81		
160	0.04	0.02	2.93	5.29	4.72	6.26	2.82	0.05	3.66	2.45	0.08	3.47	4.84	4.32	4.19	0.44		
165	1.43	0.66	0.17	1.36	1.74	1.71	0.30	0.54	0.02	0.02	0.41	0.34	1.33	1.43	1.00	0.02		
170	0.01	0.01	0.01	0.02	0.07	0.03	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.01	0.01		
175	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01		
180	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00		

Flux out:331.9 lm



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.





### 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-707	Temperature Probe 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
ST-R-709	Hygrothermograph for Goniophotometer	2022-01-03	2023-01-02
Uncertainty(K=2): Photometric Measurement (Sphere):3.40% Chromaticity Measurement(Sphere):44.8K Photometric Measurement(Goniophotometer):3.64%			

#### 4. Product Photo



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