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LM-79-08 Test Report

For

LEDVANCE LLC

(Brand Name: N/A)

200 Ballardvale St. Wilmington MA 01887, USA

Model name(s):
LED8A15DIM927F13YTL

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

**Type of
Luminaire:** Lamps

Report Date: 2020-06-04

Ningbo TengLi Testing Co., Ltd

Prepared By: 2nd floor, Block B, Ningbo Testing and Certification Base,
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Review By:

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Manager: Johnson Sun

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.

Report No.: STD200465NB-CZ

Report Format Number STD/QP019-409-A/0-NB

<http://www.standard-tech.com>

1.1 Product Information:		
Model Number	LED8A15DIM927F13YTL	
Remark	This is a multiple listed report, the Project Number of the original report is STD200465NB-Z	
Representative (Tested) Model	LED8A15DIM927F13YTL	
Model Difference	N/A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Lamps	
LED Manufacturer	N/A	
LED Model	N/A	
Dimming	N/A	
Sample Number	STD200465NB-Z1(2700K)	
Date of Receipt	May.19, 2020	
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,60 Hz
Nominal Power	8W
Rated Initial Lamp Lumen	--
Declared CCT	2700K

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 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, 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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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	2020-05-20	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	45
Model Number	LED8A15DIM927F13YTL	Total Operating Time(min)	60

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
STD200465 NB-Z1	120.1	60	0.0750	7.140	0.7927

Chromaticity Measurement - Sphere-Spectroradiometer

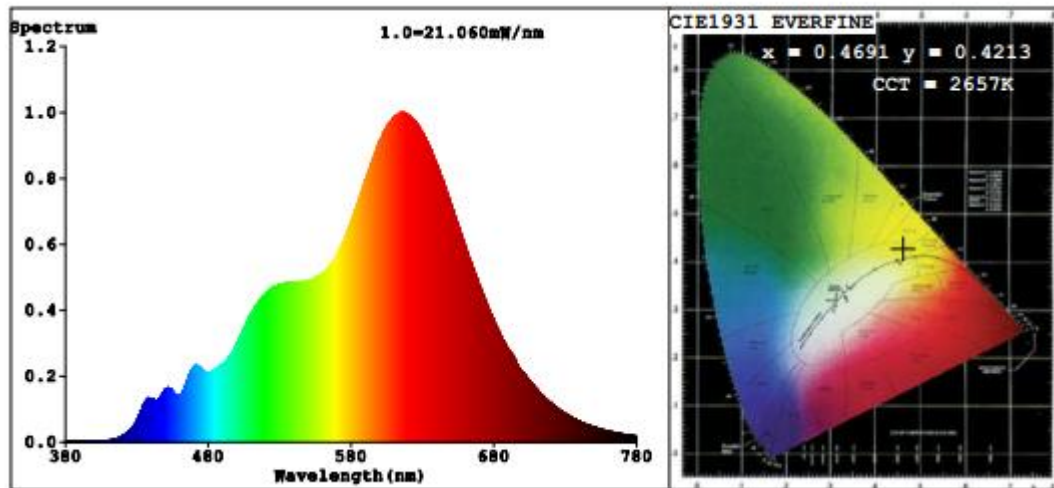
Method(Self-absorption:1.0009):

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	96	R9	48
Frequency (Hz)	60	R2	99	R10	97
CCT (K)	2657	R3	97	R11	97
Duv	0.0031	R4	97	R12	96
Chromaticity (x, y)	x=0.4691 y=0.4213	R5	97	R13	97
Chromaticity (u', v')	u'=0.2636 v'=0.5327	R6	96	R14	99
Color Rendering Index (CRI)	93.2	R7	89	R15	87
R9	48	R8	76	--	--

Photometric Measurement – Goniophotometer Method(Test distance: 1.877m):

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	808.02
Luminous Efficacy (lm/W)	113.17
Beam Angle (°)	321.9
Center Beam Candle Power (cd)	44.3

Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	40.2	5%
0-40	74.1	9.2%
0-60	178.9	22.1%
60-90	236.1	29.2%
70-100	251.3	31.1%
90-120	239.0	29.6%
0-90	415.0	51.4%
90-180	393.0	48.6%
0-180	808.1	100%

Lumens Per Zone					
Zone	Lumens	%Total	Zone	Lumens	% Total
0-10	4.3	0.5%	90-100	85.9	10.6%
10-20	13.1	1.6%	100-110	81.2	10%
20-30	22.9	2.8%	110-120	71.9	8.9%
30-40	33.9	4.2%	120-130	59.2	7.3%
40-50	46.1	5.7%	130-140	44.8	5.5%
50-60	58.7	7.3%	140-150	30.2	3.7%
60-70	70.7	8.7%	150-160	15.8	2%
70-80	80.0	9.9%	160-170	4.0	0.5%
80-90	85.3	10.6%	170-180	0.1	0%

Photometric Data

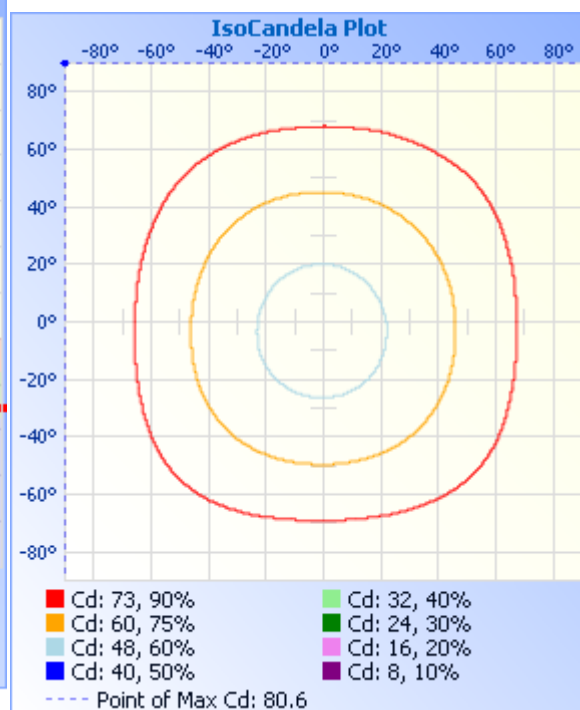
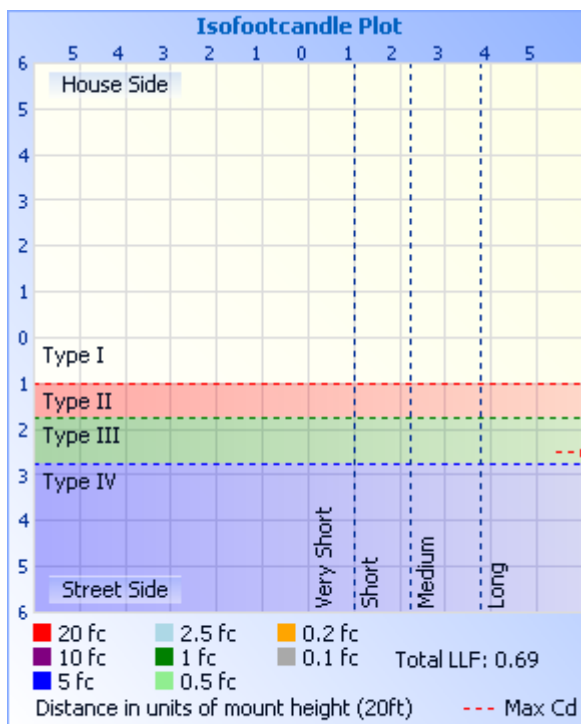
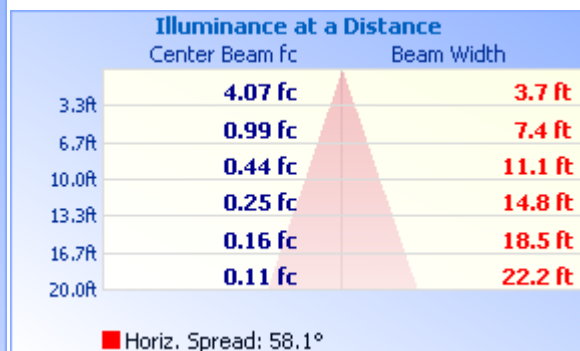
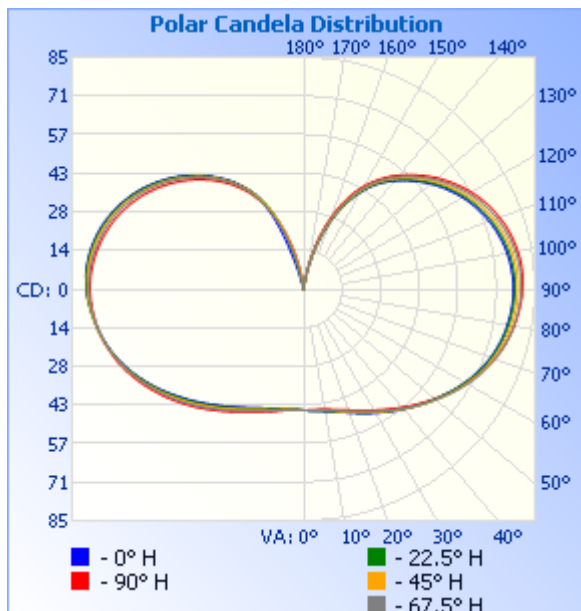


Table--1

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	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	
5	44.5	44.7	44.8	44.8	44.8	44.8	44.7	44.6	44.4	44.3	44.2	44.1	44.1	44.2	44.2	44.4	
10	45.2	45.4	45.5	45.5	45.5	45.4	45.2	45.0	44.8	44.5	44.4	44.4	44.5	44.6	44.8	45.0	
15	46.5	46.7	46.8	46.8	46.7	46.5	46.3	46.1	45.8	45.5	45.4	45.3	45.3	45.5	45.8	46.2	
20	47.8	48.2	48.3	48.3	48.2	48.1	47.9	47.6	47.2	46.7	46.4	46.3	46.4	46.6	47.0	47.5	
25	49.7	50.1	50.3	50.2	50.1	50.0	49.7	49.5	49.0	48.4	48.2	47.9	47.9	48.2	48.7	49.2	
30	51.9	52.4	52.6	52.5	52.4	52.2	52.0	51.7	51.2	50.6	50.2	49.9	49.9	50.2	50.7	51.4	
35	54.4	54.9	55.1	55.0	54.8	54.7	54.5	54.2	53.7	53.1	52.6	52.3	52.2	52.5	53.2	53.8	
40	57.2	57.6	57.8	57.6	57.4	57.3	57.2	57.0	56.5	55.8	55.3	54.9	54.9	55.2	55.8	56.5	
45	60.1	60.6	60.8	60.4	60.1	60.1	60.2	60.1	59.5	58.7	58.2	57.8	57.8	58.1	58.8	59.5	
50	63.0	63.5	63.7	63.2	62.9	62.9	63.1	63.2	62.6	61.7	61.2	60.9	60.9	61.2	61.8	62.3	
55	66.0	66.4	66.7	66.0	65.6	65.7	66.2	66.4	65.8	64.9	64.4	64.1	64.1	64.4	64.9	65.3	
60	68.9	69.3	69.3	68.8	68.4	68.6	69.1	69.5	69.0	68.1	67.5	67.3	67.4	67.6	68.0	68.3	
65	71.6	71.9	71.9	71.2	70.9	71.2	71.9	72.4	71.9	71.0	70.5	70.4	70.4	70.6	70.9	71.1	
70	73.9	74.2	74.1	73.4	73.1	73.4	74.2	74.9	74.6	73.7	73.2	73.1	73.1	73.2	73.5	73.6	
75	75.9	76.0	75.8	75.0	74.8	75.2	76.0	76.9	76.8	76.0	75.5	75.3	75.4	75.6	75.7	75.6	
80	77.1	77.2	76.9	76.1	76.0	76.4	77.4	78.4	78.5	77.8	77.3	77.1	77.3	77.4	77.4	77.1	
85	78.0	78.0	77.5	76.9	76.8	77.2	78.3	79.4	79.7	79.1	78.7	78.5	78.8	78.8	78.6	78.2	
90	78.4	78.3	77.7	77.1	77.1	77.6	78.7	79.9	80.3	79.9	79.6	79.5	79.7	79.7	79.4	78.8	
95	78.3	77.9	77.3	76.8	76.8	77.4	78.6	79.8	80.5	80.2	80.0	79.9	80.1	80.0	79.5	78.9	
100	77.4	77.0	76.4	75.9	75.9	76.7	77.8	79.0	79.8	79.6	79.5	79.4	79.6	79.4	78.9	78.1	
105	75.9	75.5	75.0	74.4	74.5	75.3	76.4	77.6	78.6	78.4	78.2	78.1	78.5	78.1	77.6	76.8	
110	74.0	73.5	72.9	72.5	72.6	73.4	74.5	75.7	76.7	76.5	76.4	76.3	76.6	76.3	75.7	75.0	
115	71.5	71.0	70.4	70.0	70.2	71.0	72.0	73.1	74.2	74.1	74.0	73.9	74.1	73.8	73.2	72.6	
120	68.5	67.9	67.4	67.1	67.3	68.0	69.0	70.0	71.1	71.1	71.1	70.9	71.1	70.8	70.2	69.6	
125	65.0	64.4	64.0	63.7	64.0	64.7	65.6	66.5	67.5	67.6	67.6	67.5	67.5	67.2	66.6	66.1	
130	61.1	60.5	60.1	59.9	60.2	60.9	61.7	62.6	63.5	63.6	63.6	63.4	63.5	63.2	62.6	62.2	
135	56.8	56.3	56.0	55.8	56.2	56.7	57.5	58.3	59.1	59.3	59.2	59.1	59.0	58.7	58.3	57.9	
140	52.2	51.8	51.5	51.5	51.8	52.3	53.0	53.7	54.5	54.6	54.5	54.3	54.2	53.9	53.5	53.2	
145	47.1	46.7	46.6	46.6	47.0	47.3	48.0	48.5	49.4	49.5	49.3	49.2	48.9	48.6	48.3	48.0	
150	41.2	40.9	40.7	40.5	40.7	40.9	41.5	42.3	43.2	43.4	43.4	43.3	43.1	42.8	42.6	42.1	
155	34.3	33.8	33.3	32.8	32.7	32.9	33.5	34.3	35.6	35.8	33.2	33.6	34.9	35.7	35.3	33.7	
160	25.8	25.0	24.3	23.7	23.4	23.4	24.0	25.0	26.5	26.1	17.3	10.9	18.9	25.9	26.0	24.1	
165	16.1	15.4	14.6	13.9	13.5	13.5	13.9	14.8	16.3	16.4	11.1	4.12	2.89	10.1	14.7	13.0	
170	5.96	5.04	4.48	4.63	4.33	4.15	4.16	4.62	6.15	6.28	5.46	2.68	0.35	0.89	2.24	2.08	
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-2000	Verified by D204 standard lamp	
ST-R-705	Standard Lamp	2020-02-06	2021-02-05
ST-R-704	Power Meter for Integrating Sphere	2020-01-05	2021-01-04
ST-R-714	Goniophotometer system	Verified by D908S standard lamp	
ST-R-710	Standard Lamp	2020-02-11	2021-02-10
ST-R-711	Power Meter for Goniophotometer	2020-01-05	2021-01-04
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

4. Product Photo



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