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## LM-79-19 Test Report

For

### LEDVANCE LLC

(Brand Name:  LEDVANCE )

200 Ballardvale Street, Wilmington, MA 01887, U.S.A

**Model name(s):**  
**LNSLOT1A18UNVD8SC124CWH**

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

**Type of  
Luminaire:** LED Linear Light

**Report Date:** 2022-07-14

Ningbo TengLi Testing Co., Ltd

**Prepared By:** 2nd floor, Block B, Ningbo Testing and Certification Base,  
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Test & Report By:

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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.

Report No.: JAE220201-A

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

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1.1 Product Information:		
Model Number	LNSLOT1A18UNVD8SC124CWH	
Remark	N/A	
Representative (Tested) Model	LNSLOT1A18UNVD8SC124CWH(3000K) LNSLOT1A18UNVD8SC124CWH(3500K) LNSLOT1A18UNVD8SC124CWH(4000K)	
Model Difference	N/A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Linear Light	
LED Manufacturer	Bridgelux, Inc.	
LED Model	BXEN-XXX-11L-37A-00-0-0	
Dimming	Dimmable	
Integral Controls	N/A	
Sample Number	JAE220201-A1	
Date of Receipt	Jul. 11. 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	120-277Vac, 50/60Hz
Nominal Power	18W
Rated Initial Lamp Lumen	1800lm
Declared CCT	3000K, 3500K, 4000K



### 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-79-2019 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2008 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 Electrical, Photometric and Chromaticity Measurements

Test date	2022-07-13	Test Ambient:	25 ± 1 ° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	LNSLOT1A18UNVD8SC124CWH (3000K)	Total Operating Time(min)	75

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE220201-A1	120.1	60.01	0.1478	17.67	0.9959	4.60
	277.3	60.01	0.0651	17.33	0.9610	13.50

### Photometric Measurement – Goniophotometer Method(Tset Distance: 26.00m):

Parameter	Result	
Test Voltage (V)	120	277
Frequency (Hz)	60	60
Total Luminous (lm)	1843.9	1803.5
Luminous Efficacy (lm/W)	104.35	104.06
Beam Angle (°)	101.1	--
Center Beam Candle Power (cd)	736	--



## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	552.1	29.9%
0-40	884.5	48%
0-60	1,500.5	81.4%
60-90	343.3	18.6%
70-100	133.7	7.3%
90-120	0	0%
0-90	1,843.7	100%
90-180	0.0	0%
0-180	1,843.7	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	69.4	3.8%	90-100	0	0%
10-20	195.5	10.6%	100-110	0	0%
20-30	287.2	15.6%	110-120	0	0%
30-40	332.4	18.0%	120-130	0	0%
40-50	329.9	17.9%	130-140	0	0%
50-60	286.0	15.5%	140-150	0	0%
60-70	209.5	11.4%	150-160	0	0%
70-80	111.9	6.1%	160-170	0.0	0%
80-90	21.8	1.2%	170-180	0.0	0%

## Photometric Data

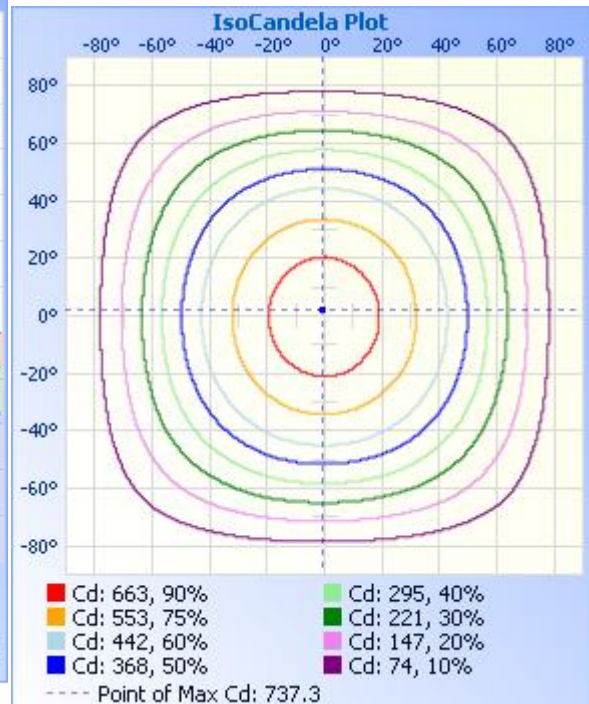
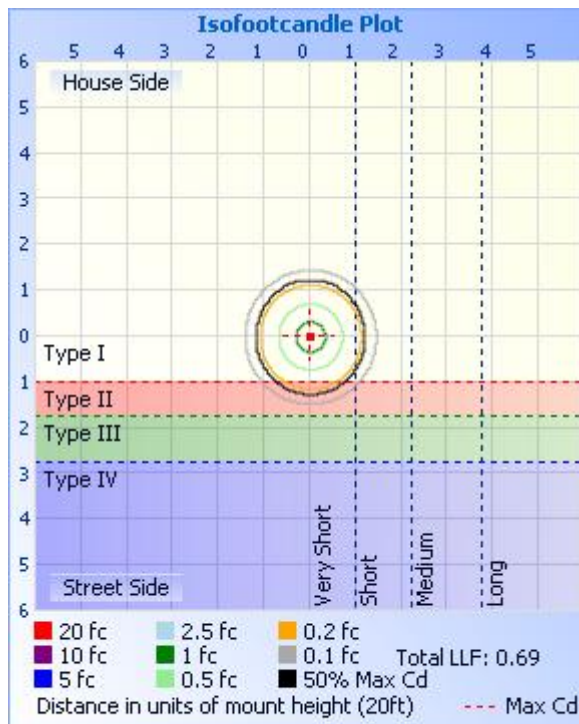
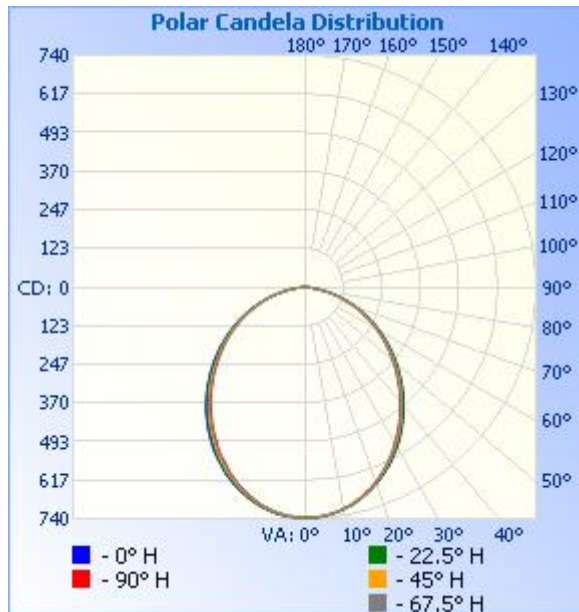






Table--1

UNIT: cd

C (DEG) □ (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	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736	736			
5	730	730	731	731	732	733	732	733	732	733	731	732	732	733	731	730			
10	713	714	715	716	718	720	719	719	717	719	718	719	719	719	715	715			
15	686	688	691	694	698	699	696	696	695	695	694	697	696	696	691	689			
20	653	656	659	665	669	668	665	662	662	662	664	666	667	666	659	657			
25	611	616	620	626	633	631	627	624	623	623	626	629	630	628	620	616			
30	564	569	578	585	591	590	582	578	576	577	582	588	588	583	575	571			
35	518	520	528	537	543	541	535	529	527	529	533	541	541	536	526	523			
40	467	470	476	486	493	490	484	479	476	477	483	489	490	485	475	471			
45	414	418	424	434	440	437	431	425	423	424	429	437	437	433	423	418			
50	361	365	371	381	386	383	377	371	370	370	374	383	382	377	370	364			
55	308	311	316	327	331	330	322	317	317	317	320	327	327	323	316	311			
60	255	258	263	272	275	276	269	263	263	263	266	271	271	268	262	257			
65	203	205	210	217	220	220	215	210	210	211	212	216	216	213	208	204			
70	151	153	157	162	165	165	161	157	158	158	157	160	160	158	155	152			
75	99.9	102	104	108	110	111	108	105	107	107	106	106	106	105	103	102			
80	52.6	53.8	54.8	56.9	58.5	59.2	58.1	57.7	59.4	58.8	57.2	56.6	54.8	55.0	54.0	54.3			
85	15.3	15.4	15.6	16.1	16.7	17.1	17.4	18.2	19.5	18.4	16.5	15.5	14.1	14.2	14.8	15.5			
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			
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	0.20	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.20	0.00	0.00			
175	0.10	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00			
180	0.10	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.00	0.00			



## 2.2 Electrical, Photometric and Chromaticity Measurements

Test date	2022-07-13	Test Ambient:	25 ± 1 ° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	LNSLOT1A18UNVD8SC124CWH (3000K)	Total Operating Time(min)	61

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE220201-A1	120.0	60	0.1486	17.74	0.9947	4.72
	277.0	60	0.0654	17.40	0.9598	13.62

### Chromaticity Measurement - Sphere-Spectroradiometer

#### Method(Self-absorption:1.1172)(4 $\pi$ geometry):

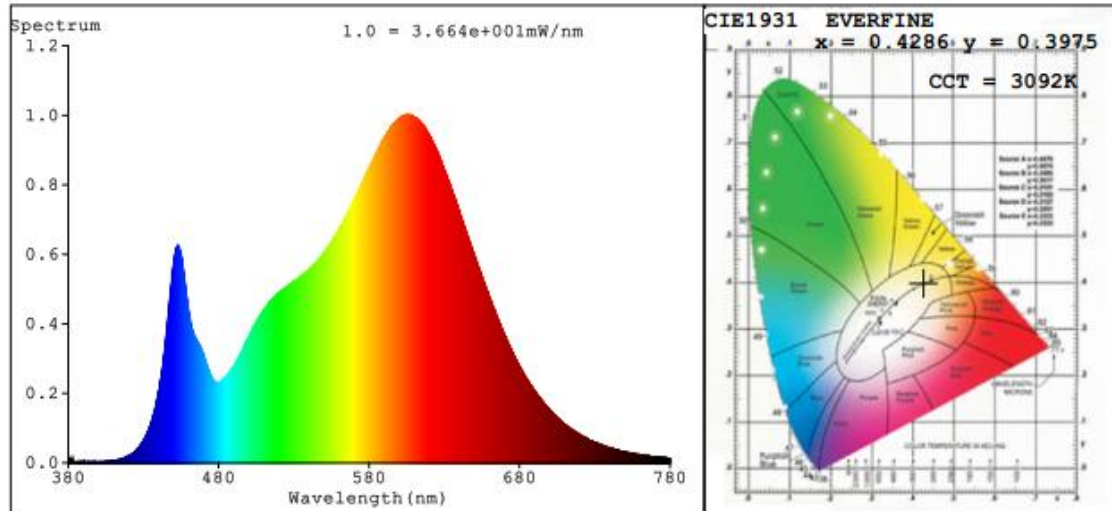
Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3092
Duv	-0.0014
Chromaticity (x, y)	x=0.4286 y=0.3975
Chromaticity (u', v')	u'=0.2480 v'=0.5175
Color Rendering Index (CRI)	85.7
R9	19
Rg	96
Rf	86
Rcs,h1	-11

### Photometric Measurement –Sphere-Spectroradiometer Method:

Parameter	Result	
Test Voltage (V)	120	277
Frequency (Hz)	60	60
Total Luminous (lm)	1853	1812
Luminous Efficacy (lm/W)	104.45	104.14



## Spectral Power Distribution & Chromaticity Diagram



R1 =85	R2 =94	R3 =95	R4 =84	R5 =86	R6 =93	R7 =84	
R8 =64	R9 =19	R10=87	R11=85	R12=76	R13=88	R14=98	R15=78

TM30

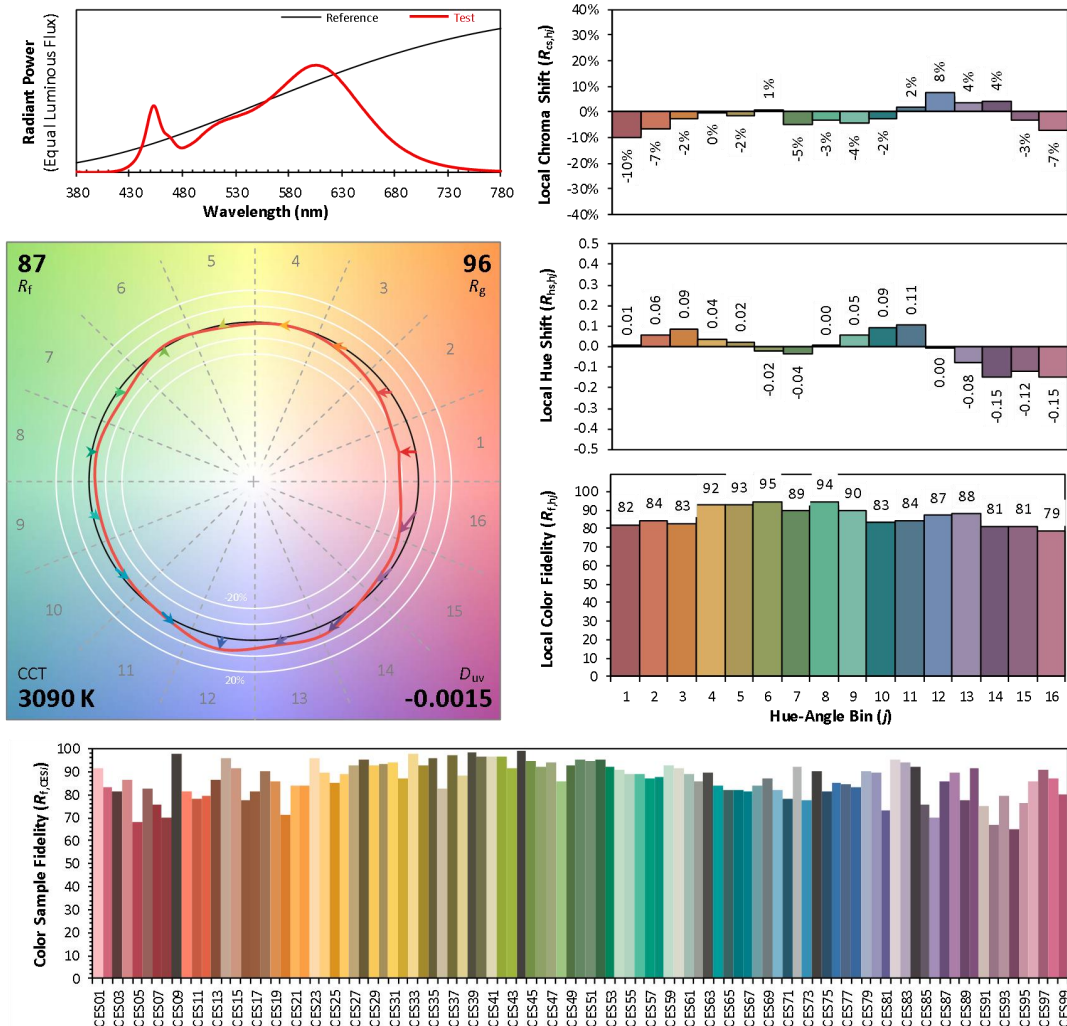
ANSI/IES TM-30-18 Color Rendition Report

Source: BXEN-XXX-11L-37A-00-0-0

Manufacturer: LEDVANCE LLC

Date: 2022-07-13

Model: LNSLOT1A18UNVD8SC124CWH(3000K)



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

$x$  0.4286  
 $y$  0.3974  
 $u'$  0.2481  
 $v'$  0.5175

CIE 13.3-1995  
(CRI)

$R_a$  86  
 $R_g$  19

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



## 2.3 Electrical, Photometric and Chromaticity Measurements

Test date	2022-07-13	Test Ambient:	25 ± 1 °C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	LNSLOT1A18UNVD8SC124CWH (3500K)	Total Operating Time(min)	61

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE220201-A1	120.0	60	0.1443	17.22	0.9943	4.75
	277.0	60	0.0635	16.87	0.9594	13.55

### Chromaticity Measurement - Sphere-Spectroradiometer

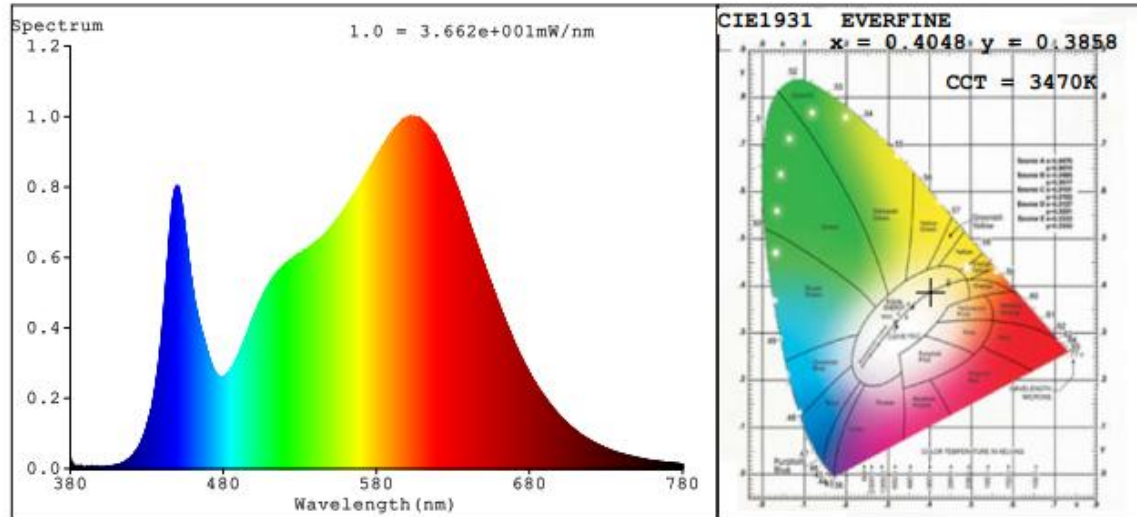
#### Method(Self-absorption:1.1176)(4 $\pi$ geometry):

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	3470
Duv	-0.0021
Chromaticity (x, y)	x=0.4048 y=0.3858
Chromaticity (u', v')	u'=0.2374 v'=0.5091
Color Rendering Index (CRI)	86.9
R9	24
Rg	98
Rf	87
Rcs,h1	-10

### Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result	
Test Voltage (V)	120	277
Frequency (Hz)	60	60
Total Luminous (lm)	1996	1950
Luminous Efficacy (lm/W)	115.91	115.59

## Spectral Power Distribution & Chromaticity Diagram



R1 =86	R2 =93	R3 =97	R4 =86	R5 =87	R6 =91	R7 =86	
R8 =68	R9 =24	R10=84	R11=87	R12=75	R13=88	R14=99	R15=80



## TM30

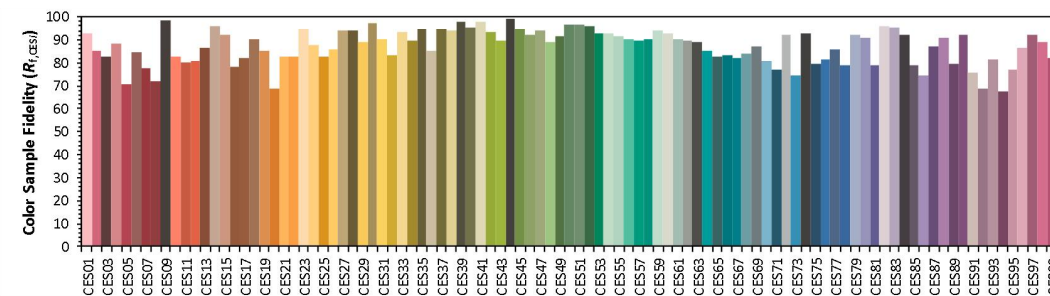
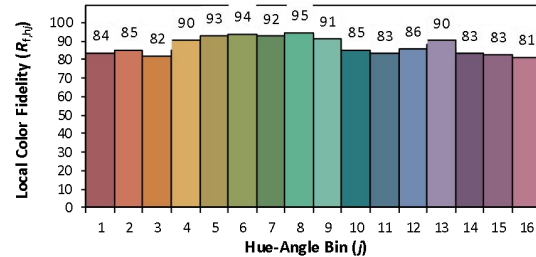
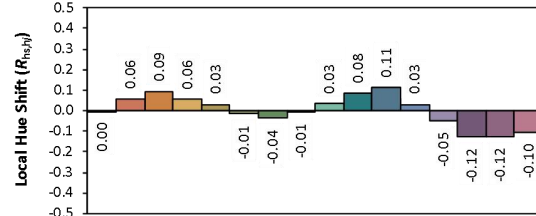
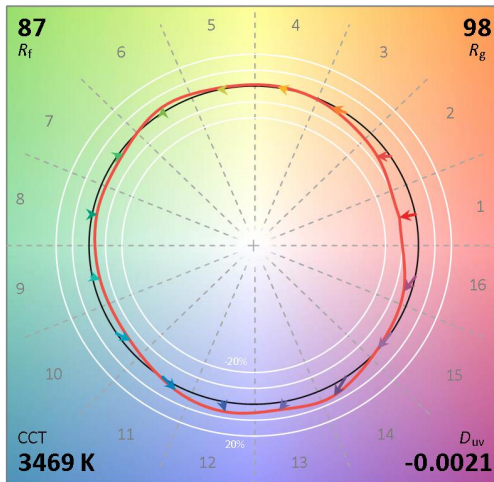
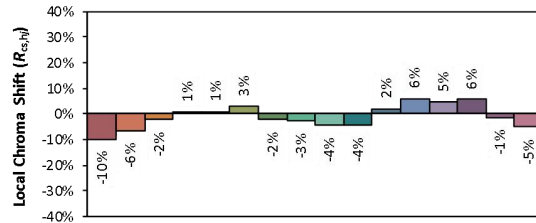
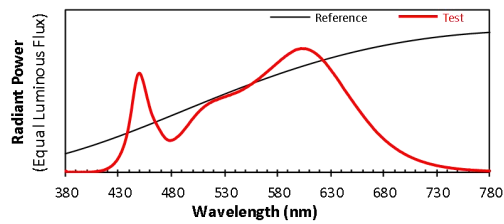
### ANSI/IES TM-30-18 Color Rendition Report

Source: BXEN-XXX-11L-37A-00-0-0

Manufacturer: LEDVANCE LLC

Date: 2022-07-13

Model: LNSLOT1A18UNVD8SC124CWH(3500K)



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

$x$  0.4048

$y$  0.3857

$u'$  0.2375

$v'$  0.5091

CIE 13.3-1995  
(CRI)

$R_a$  87

$R_g$  24

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



## 2.4 Electrical, Photometric and Chromaticity Measurements

Test date	2022-07-13	Test Ambient:	25 ± 1 ° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	LNSLOT1A18UNVD8SC124CWH (4000K)	Total Operating Time(min)	61

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE220201-A1	120.0	60	0.1494	17.83	0.9948	4.70
	277.0	60	0.0658	17.49	0.9599	13.60

### Chromaticity Measurement - Sphere-Spectroradiometer

#### Method(Self-absorption:1.1178)(4 $\pi$ geometry):

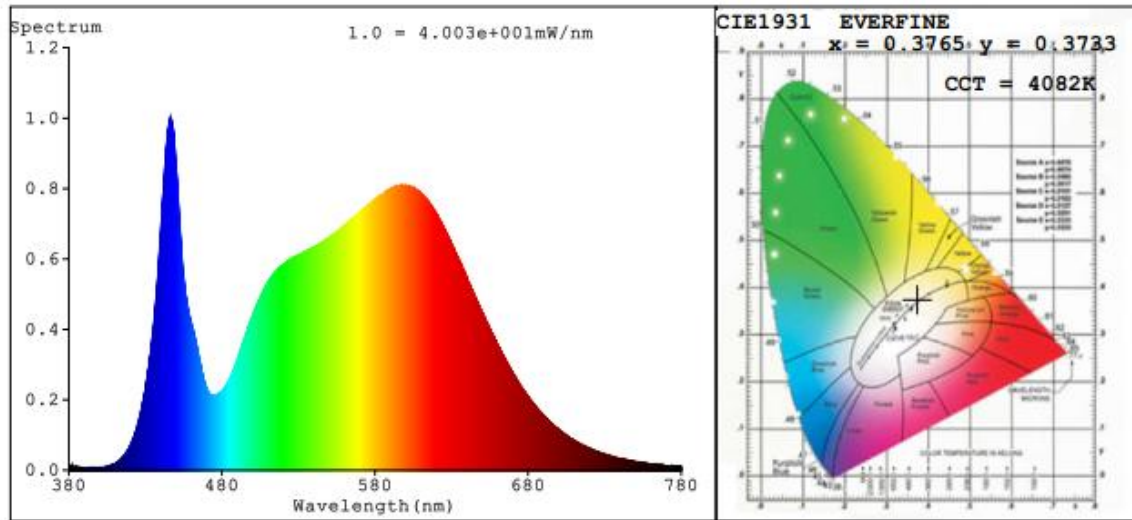
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	4082
Duv	-0.0005
Chromaticity (x, y)	x=0.3765 y=0.3733
Chromaticity (u', v')	u'=0.2239 v'=0.4995
Color Rendering Index (CRI)	85.2
R9	21
Rg	98
Rf	85
Rcs,h1	-11

### Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result	
Test Voltage (V)	120	277
Frequency (Hz)	60	60
Total Luminous (lm)	1963	1920
Luminous Efficacy (lm/W)	110.10	109.78



## Spectral Power Distribution & Chromaticity Diagram



R1 =85	R2 =89	R3 =93	R4 =86	R5 =85	R6 =86	R7 =88	
R8 =70	R9 =21	R10=75	R11=87	R12=70	R13=85	R14=96	R15=79



## TM30

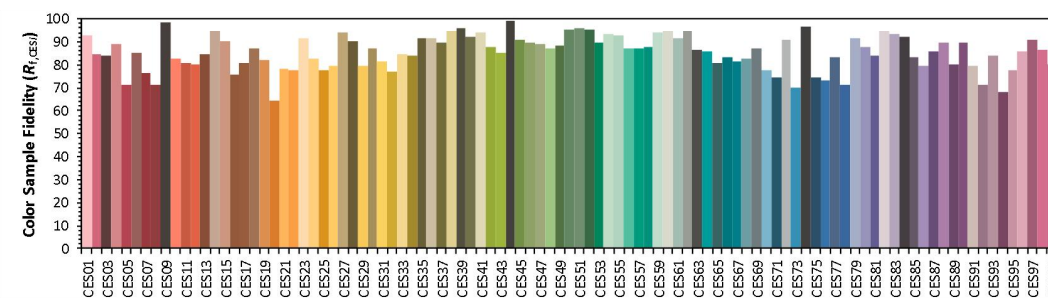
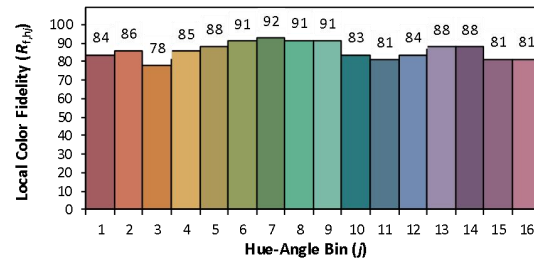
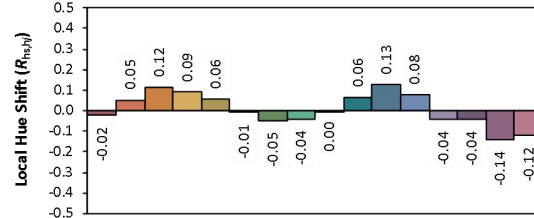
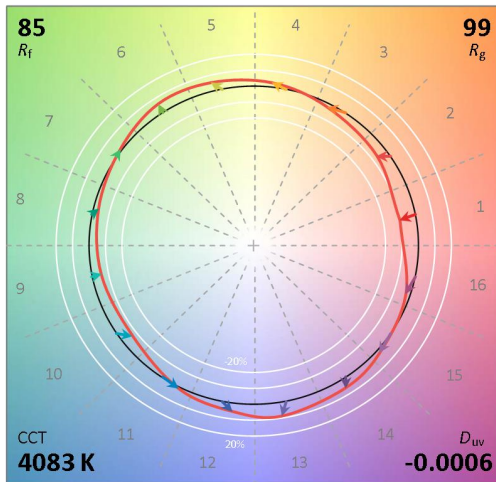
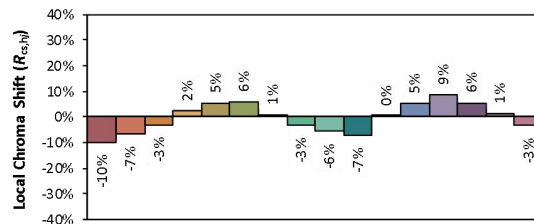
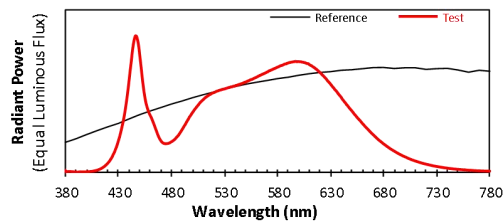
### ANSI/IES TM-30-18 Color Rendition Report

Source: BXEN-XXX-11L-37A-00-0-0

Manufacturer: LEDVANCE LLC

Date: 2022-07-13

Model: LNSLOT1A18UNVD8SC124CWH(4000K)



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

$x$  0.3765  
 $y$  0.3731  
 $u'$  0.2240  
 $v'$  0.4994

CIE 13.3-1995  
(CRI)

$R_a$  85  
 $R_g$  21

Colors 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	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 \*\*\*\*\***