




Ningbo TengLi Testing Co., Ltd

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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):

LNSLOT1A24UNHD8SC124DIPWH

LNSLOT1A24UNHD8SC124WWH

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,
No. 66 Qingyi Road, Ningbo National Hi-Tech Zone,
Ningbo, Zhejiang

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-C

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

www.ningbotenglittesting.com

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1.1 Product Information:		
Model Number	LNSLOT1A24UNHD8SC124DIPWH LNSLOT1A24UNHD8SC124WWH	
Remark	N/A	
Representative (Tested) Model	LNSLOT1A24UNHD8SC124WWH(3000K) LNSLOT1A24UNHD8SC124WWH(3500K) LNSLOT1A24UNHD8SC124WWH(4000K)	
Model Difference	Lamp housing colors are different.	
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-C1	
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	120-347Vac, 50/60Hz
Nominal Power	24W
Rated Initial Lamp Lumen	2400lm
Declared CCT	3000K,3500K,4000K

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-79-2019 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	2022-07-13	Test Ambient:	25 ± 1 ° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	LNSLOT1A24UNHD8SC124WW H(3000K)	Total Operating Time(min)	75

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE220201-C1	120.1	60.01	0.1919	22.76	0.9875	13.50
	347.4	60.01	0.0744	23.90	0.9249	14.00

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

Parameter	Result	
Test Voltage (V)	120	347
Frequency (Hz)	60	60
Total Luminous (lm)	2407.9	2475.0
Luminous Efficacy (lm/W)	105.78	103.54
Beam Angle (°)	102.1	--
Center Beam Candle Power (cd)	730	--



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	548.8	22.8%
0-40	880.8	36.6%
0-60	1,498.5	62.2%
60-90	345.7	14.4%
70-100	147.3	6.1%
90-120	118.3	4.9%
0-90	1,844.3	76.6%
90-180	563.3	23.4%
0-180	2,407.5	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	68.8	2.9%	90-100	12.3	0.5%
10-20	194.1	8.1%	100-110	39.3	1.6%
20-30	285.9	11.9%	110-120	66.7	2.8%
30-40	332.0	13.8%	120-130	88.1	3.7%
40-50	330.5	13.7%	130-140	99.1	4.1%
50-60	287.2	11.9%	140-150	98.1	4.1%
60-70	210.7	8.8%	150-160	83.6	3.5%
70-80	112.6	4.7%	160-170	56.3	2.3%
80-90	22.4	0.9%	170-180	19.8	0.8%

Photometric Data

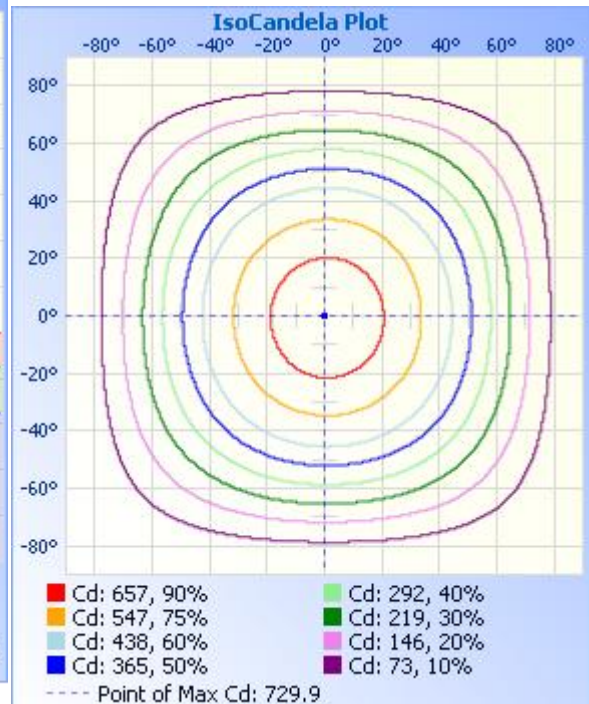
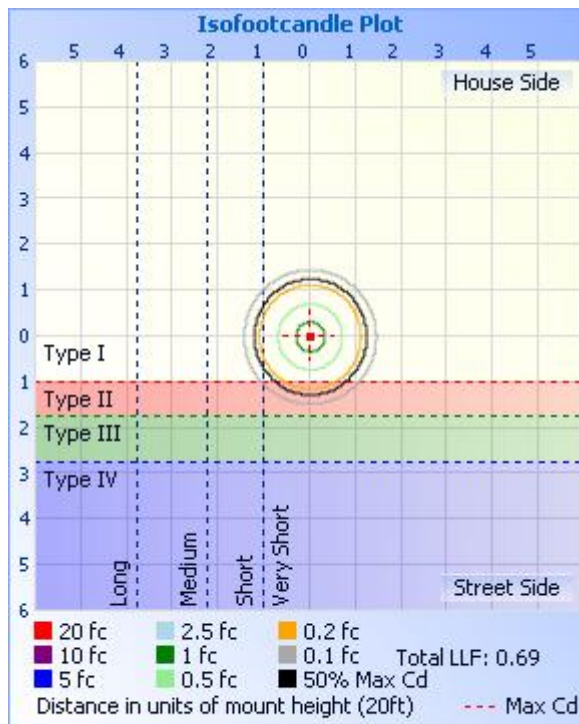
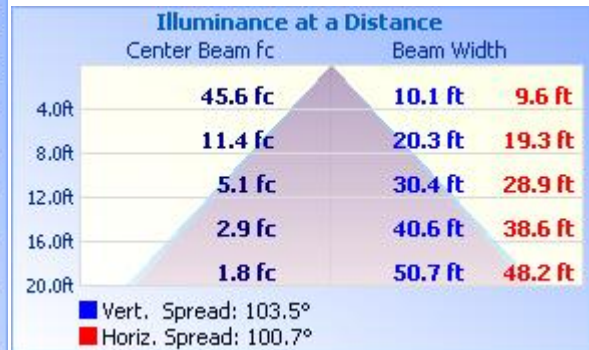
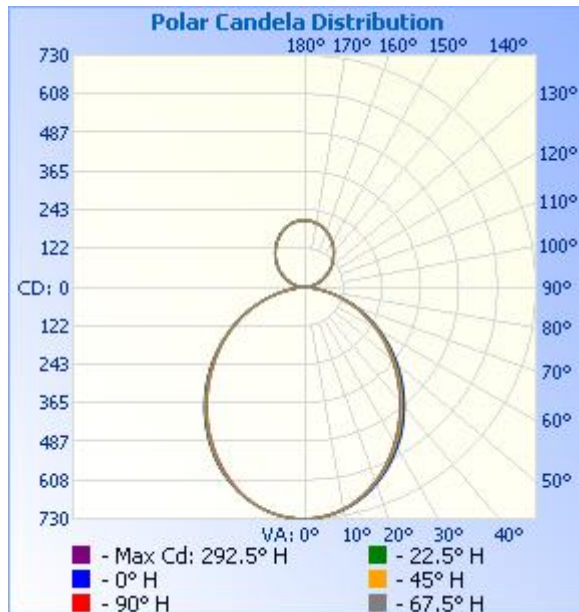




Table--1

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	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730			
5	726	726	726	726	726	726	725	723	724	724	725	725	726	726	726	725			
10	713	712	713	713	712	711	710	708	708	709	711	712	714	713	714	712			
15	690	690	691	690	690	688	686	684	684	685	687	691	693	693	692	691			
20	658	659	660	661	661	657	654	651	651	652	657	661	665	664	663	661			
25	621	621	623	625	625	621	616	612	612	613	620	625	629	628	626	623			
30	578	579	581	583	584	579	573	568	567	568	575	582	587	586	582	580			
35	530	531	535	538	538	531	526	520	519	520	528	536	541	539	535	533			
40	479	481	483	488	488	481	476	470	468	469	477	486	491	489	485	482			
45	427	429	430	436	436	430	424	417	416	417	425	433	438	437	432	430			
50	373	375	377	383	383	377	370	364	364	364	371	380	384	383	378	376			
55	320	321	323	329	329	324	317	311	311	311	317	325	329	328	325	322			
60	266	267	269	274	273	270	264	258	258	259	264	270	274	273	270	267			
65	212	212	215	219	218	216	211	205	206	206	209	215	218	217	215	213			
70	158	159	161	164	164	162	157	153	154	154	155	160	162	162	161	159			
75	106	107	108	110	110	109	105	103	103	103	103	106	107	108	107	107			
80	57.5	58.2	58.5	59.2	58.9	58.2	56.0	56.3	56.0	55.8	55.1	55.9	56.2	56.8	57.1	57.2			
85	17.2	17.4	17.2	17.4	17.2	16.7	16.7	16.5	17.2	16.6	15.9	15.9	15.8	16.2	17.2	17.3			
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	16.9	15.5	12.4	7.00	4.01	6.63	11.6	15.4	17.0	16.3	12.9	7.92	5.40	8.42	13.3	16.5			
100	29.1	27.1	23.4	19.6	17.3	19.2	22.9	26.9	28.3	27.9	23.3	20.2	18.7	20.7	24.2	27.7			
105	41.4	39.9	36.9	34.1	32.5	33.5	36.0	39.1	40.7	39.4	36.9	35.4	33.6	34.9	37.6	39.9			
110	55.1	53.9	51.8	49.7	48.3	49.3	50.7	53.3	54.7	52.0	51.8	51.2	49.9	50.8	52.5	54.2			
115	69.9	68.5	67.2	65.6	64.6	65.5	66.9	68.6	69.5	68.0	67.6	67.3	66.1	67.2	67.8	69.0			
120	85.1	84.1	81.8	81.1	80.4	81.5	82.3	84.0	85.0	84.1	82.9	83.6	82.6	83.1	83.0	84.3			
125	100	98.8	97.3	97.1	97.3	97.3	97.7	98.6	100	99.4	98.8	99.4	98.9	99.2	98.4	99.2			
130	115	113	111	113	113	113	112	114	115	115	113	115	114	115	113	115			
135	130	128	126	128	127	128	127	128	130	129	128	130	130	129	129	130			
140	144	142	140	143	142	143	142	141	144	143	142	145	144	144	143	143			
145	157	156	155	157	157	157	156	156	158	157	157	159	158	158	157	158			
150	170	169	167	170	170	170	169	169	171	170	169	172	170	171	169	170			
155	181	180	179	182	182	182	181	181	182	182	182	184	183	183	181	182			
160	191	190	190	192	191	192	192	192	192	192	192	194	192	193	192	192			
165	200	199	198	199	199	200	199	200	201	201	201	201	200	201	200	200			
170	207	205	204	205	204	205	205	206	206	207	206	207	206	207	207	206			
175	210	209	207	208	208	208	209	209	209	209	209	210	209	209	209	209			
180	210	210	210	211	210	210	211	210	210	210	211	210	210	211	210	210			



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	LNSLOT1A24UNHD8SC124WW H(3000K)	Total Operating Time(min)	61

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE220201-C1	120.0	60	0.1924	22.89	0.9913	13.25
	347.0	60	0.0746	24.03	0.9287	13.75

Chromaticity Measurement - Sphere-Spectroradiometer

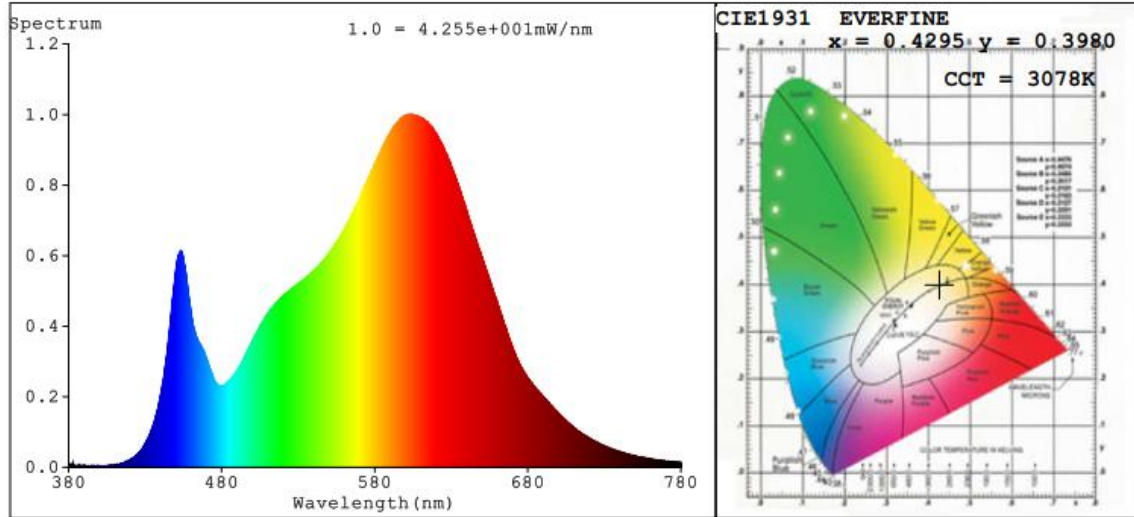
Method(Self-absorption:1.1175)(4 π geometry):

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3078
Duv	-0.0014
Chromaticity (x, y)	x=0.4295 y=0.3980
Chromaticity (u', v')	u'=0.2484 v'=0.5178
Color Rendering Index (CRI)	85.1
R9	17
Rg	96
Rf	86
Rcs,h1	-11

Photometric Measurement –Sphere-Spectroradiometer Method:

Parameter	Result	
Test Voltage (V)	120	347
Frequency (Hz)	60	60
Total Luminous (lm)	2425	2492
Luminous Efficacy (lm/W)	105.94	103.70

Spectral Power Distribution & Chromaticity Diagram



R1 =85	R2 =94	R3 =95	R4 =83	R5 =85	R6 =93	R7 =83	
R8 =63	R9 =17	R10=86	R11=84	R12=76	R13=87	R14=98	R15=77

TM30

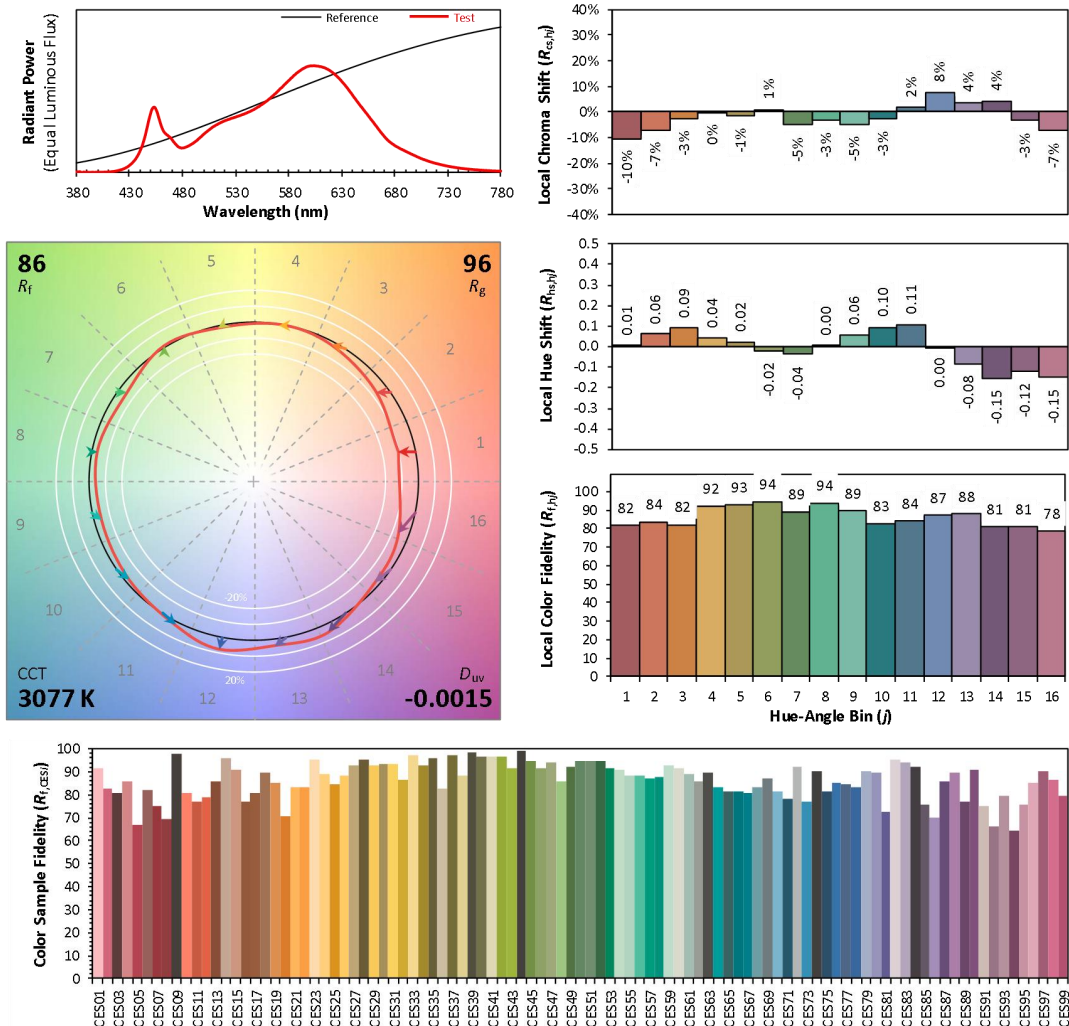
ANSI/IES TM-30-18 Color Rendition Report

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

Manufacturer: LEDVANCE LLC

Date: 2022-07-13

Model: LNSLOT1A24UNHD8SC124WWH(3000K)



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

x 0.4296
 y 0.3979
 u' 0.2485
 v' 0.5178

CIE 13.3-1995
(CRI)

R_a 85
 R_g 17

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	LNSLOT1A24UNHD8SC124WW H(3500K)	Total Operating Time(min)	61

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE220201-C1	120.0	60	0.1887	22.42	0.9900	13.36
	347.0	60	0.0731	23.54	0.9274	14.86

Chromaticity Measurement - Sphere-Spectroradiometer

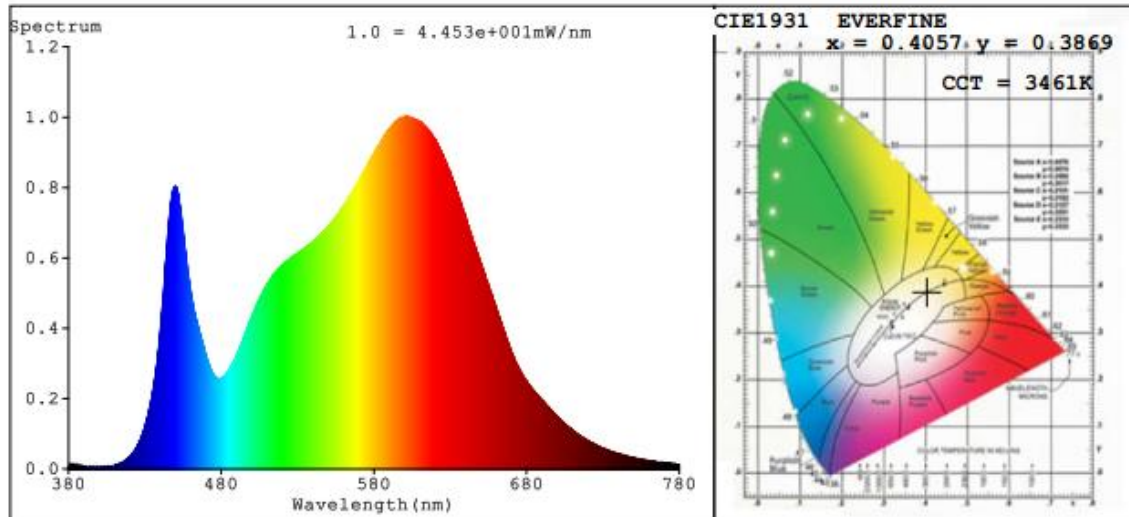
Method(Self-absorption:1.1170)(4π geometry):

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	3461
Duv	-0.0018
Chromaticity (x, y)	x=0.4057 y=0.3869
Chromaticity (u', v')	u'=0.2375 v'=0.5097
Color Rendering Index (CRI)	86.4
R9	22
Rg	98
Rf	86
Rcs,h1	-10

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result	
Test Voltage (V)	120	347
Frequency (Hz)	60	60
Total Luminous (lm)	2737	2813
Luminous Efficacy (lm/W)	122.08	119.50

Spectral Power Distribution & Chromaticity Diagram



R1 =86	R2 =93	R3 =97	R4 =86	R5 =86	R6 =91	R7 =86	
R8 =67	R9 =22	R10=83	R11=86	R12=74	R13=88	R14=99	R15=79



TM30

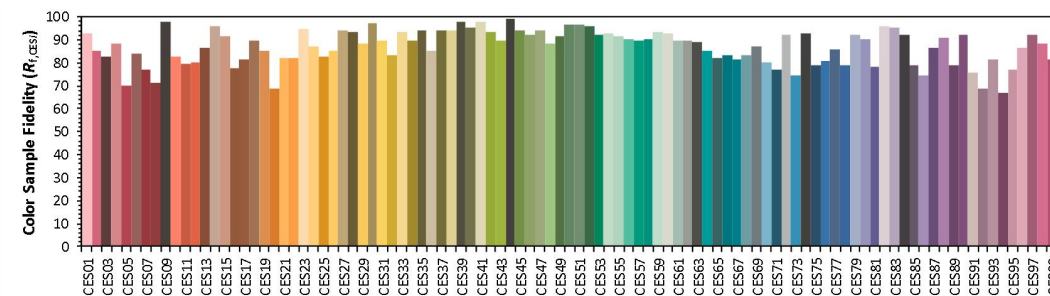
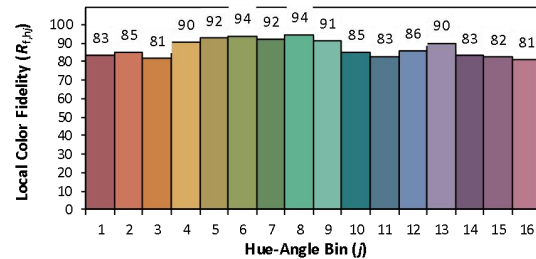
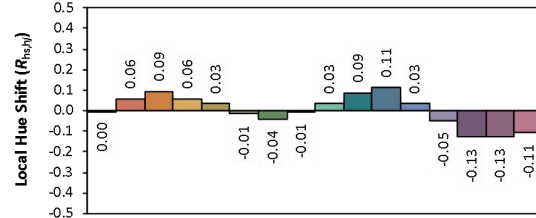
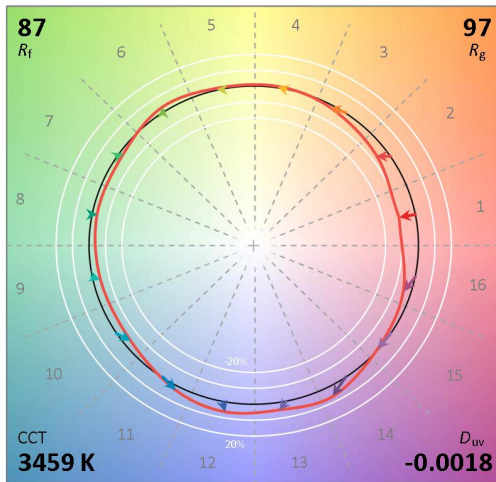
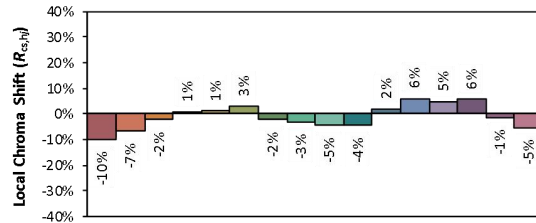
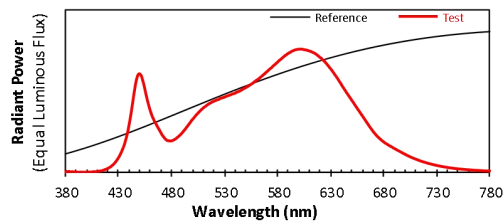
ANSI/IES TM-30-18 Color Rendition Report

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

Manufacturer: LEDVANCE LLC

Date: 2022-07-13

Model: LNSLOT1A24UNHD8SC124WWH(3500K)



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

x 0.4057
 y 0.3868
 u' 0.2376
 v' 0.5097

CIE 13.3-1995
(CRI)
 R_a 86
 R_9 22

Colors 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	LNSLOT1A24UNHD8SC124WW H(4000K)	Total Operating Time(min)	61

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE220201-C1	120.0	60	0.1930	22.97	0.9918	13.20
	347.0	60	0.0749	24.13	0.9289	14.70

Chromaticity Measurement - Sphere-Spectroradiometer

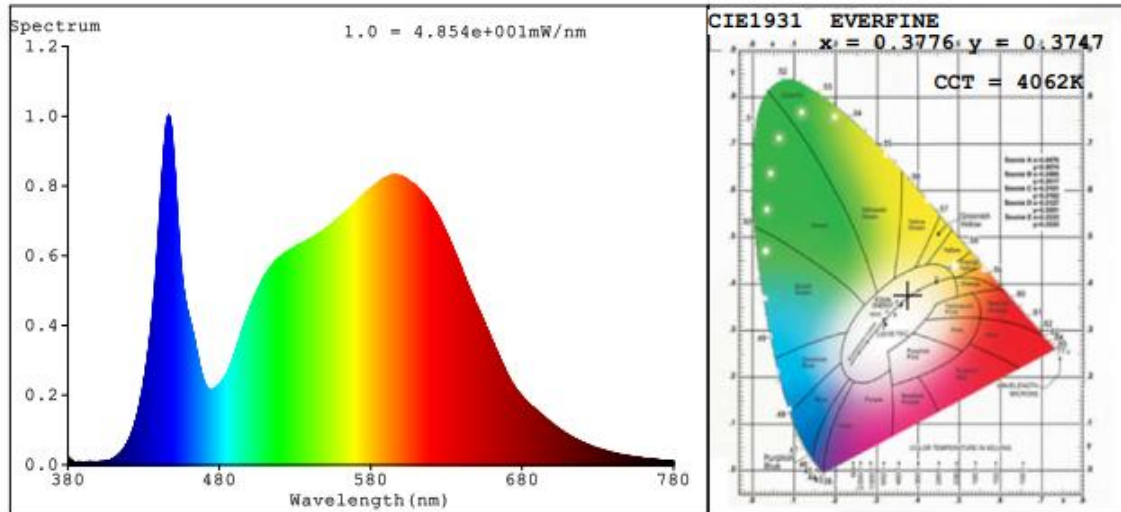
Method(Self-absorption:1.1179)(4π geometry):

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	4062
Duv	-0.0002
Chromaticity (x, y)	x=0.3776 y=0.3747
Chromaticity (u', v')	u'=0.2241 v'=0.5002
Color Rendering Index (CRI)	84.9
R9	19
Rg	98
Rf	85
Rcs,h1	-11

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result	
Test Voltage (V)	120	347
Frequency (Hz)	60	60
Total Luminous (lm)	2734	2811
Luminous Efficacy (lm/W)	119.02	116.49

Spectral Power Distribution & Chromaticity Diagram



R1 =84	R2 =89	R3 =93	R4 =86	R5 =84	R6 =86	R7 =88	
R8 =70	R9 =19	R10=74	R11=86	R12=69	R13=85	R14=96	R15=78



TM30

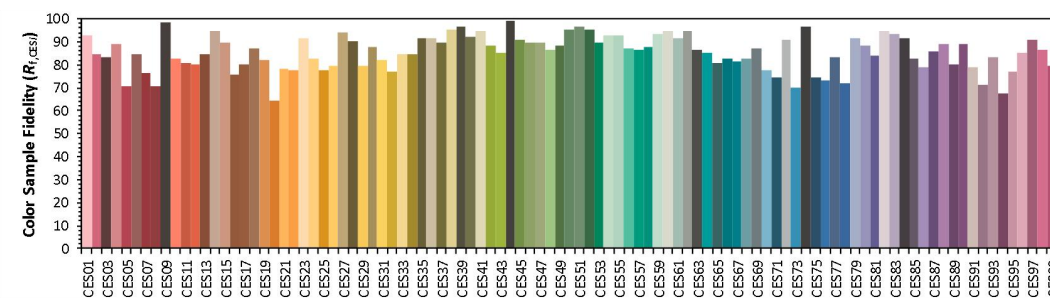
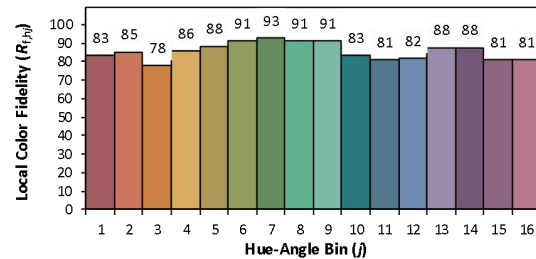
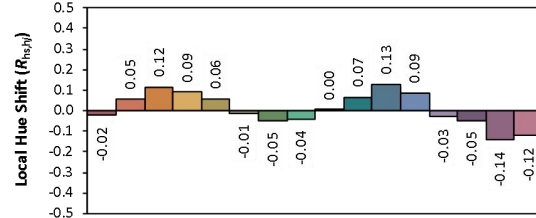
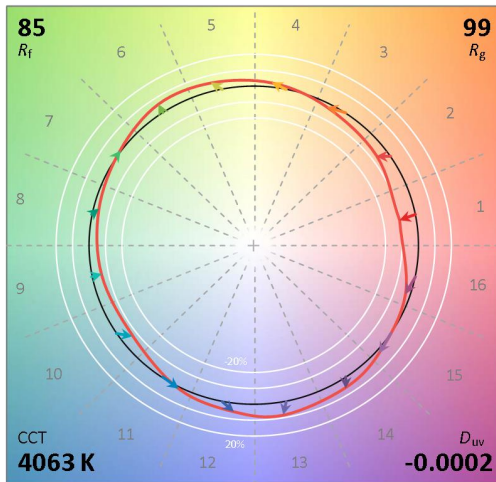
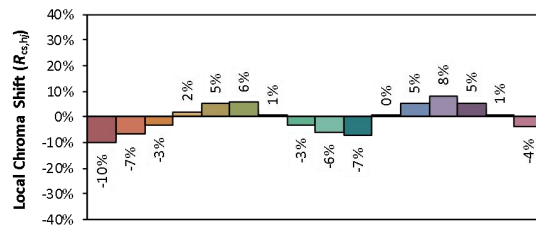
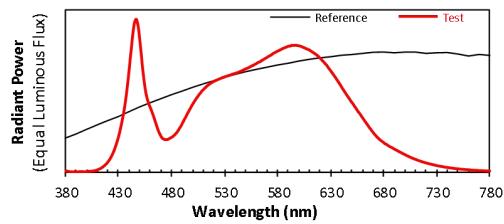
ANSI/IES TM-30-18 Color Rendition Report

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

Manufacturer: LEDVANCE LLC

Date: 2022-07-13

Model: LNSLOT1A24UNHD8SC124WWH(4000K)



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

x 0.3776
 y 0.3745
 u' 0.2241
 v' 0.5002

CIE 13.3-1995
(CRI)

R_a 85
 R_g 20

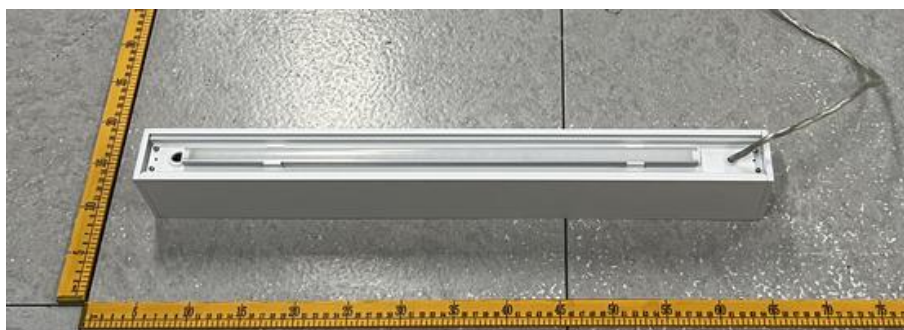
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3. Test Equipment

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 *****