Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

ACCREDITED
Certificate#4703.02

LM-79-08 Test Report

For

LEDVANCE LLC

(Brand Name: SYLVANIA)

200 BALLARDVALE STREET WILMINGTON, MA 01887

Model name(s): LEDRT3G550SC3

draft

Report Type:	Testing and Report According to IES LM-79-2008
Type of Luminaire:	Directional downlights
Report Date:	2021-11-15
Prepared By:	Ningbo TengLi Testing Co., Ltd 2nd floor, Block B, Ningbo Testing and Certification Base, No. 66 Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang

Test & Report By:

Engineer: Nick Song

Review By:

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.

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

1.1 Product Information:		
Model Number	LEDRT3G550SC3	
Remark	N/A	
Representative (Tested) Model	LEDRT3G550SC3	
Model Difference	N/A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Directional downlights	
LED Manufacturer	Bridgelux,Inc.	
LED Model	BXFN-XXG-13H-98	
Dimming	Dimmable	
Sample Number	STD210933NB-A1	
Date of Receipt	Oct.20,2021	
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	120Vac,60 Hz
Nominal Power	7W
Rated Initial Lamp Lumen	--
Declared CCT	2700K/3000K/3500K/4000K/5000K

draft

1.3 Test Specifications:

Test item	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	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2015 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°C ± 1°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 25º C ± 1º 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 25º C ± 1º 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.

draft

2.1.1 Electrical, Photometric and Chromaticity Measurements

Test date	2021-10-15	**Test Ambient:**	25±1 ° C
Test Orientation	As intended	**Stabilization Time (min)**	45
Model Number	LEDRT3G550SC3 /2700K setting	**Total Operating Time(min)**	55

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
STD210933 NB-A1	119.9	60.01	0.0598	6.916	0.9642

Chromaticity Measurement - Sphere-Spectroradiometer Method: (Self-absorption: 1.0226) (4π geometry):

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	2781
Duv	0.0024
Chromaticity (x, y)	x=0.4574 y=0.4166
Chromaticity (u', v')	u'=0.2583 v'=0.5292
Color Rendering Index (CRI)	91.6
R9	65

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	630.45
Luminous Efficacy (lm/W)	91.15
Beam Angle (°)	42.3
Center Beam Candle Power (cd)	739

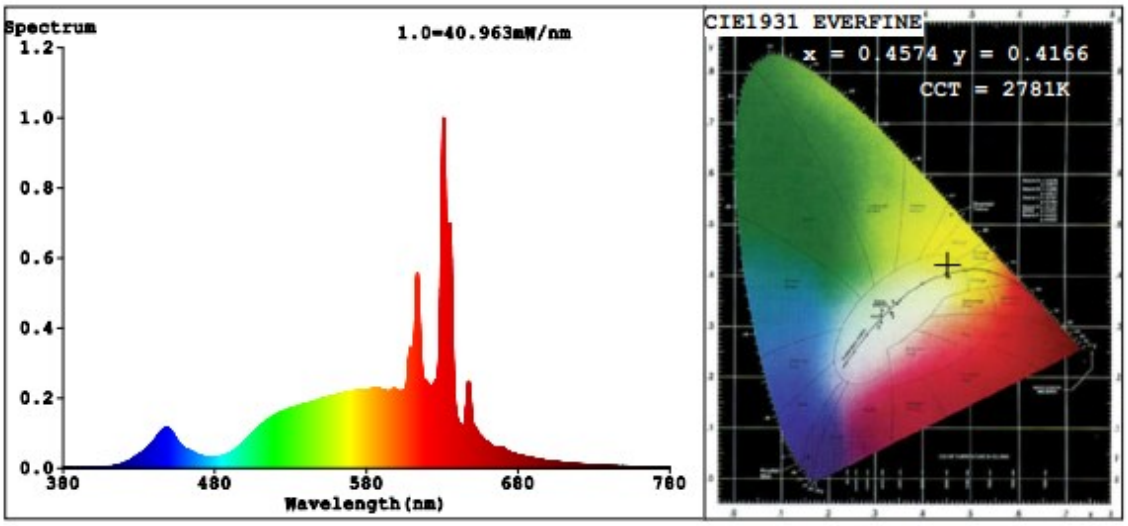
Draft

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

ACCREDITED
Certificate#4703.02

Spectral Power Distribution & Chromaticity Diagram



R1 =95	R2 =92	R3 =88	R4 =94	R5 =92	R6 =91	R7 =94	
R8 =87	R9 =65	R10=79	R11=94	R12=75	R13=93	R14=91	R15=91

Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	344.0	54.6%
0-40	455.3	72.2%
0-60	585.6	92.9%
60-90	44.7	7.1%
70-100	15.4	2.4%
90-120	0	0%
0-90	630.3	100%
90-180	0	0%
0-180	630.3	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	65.1	10.3%	90-100	0	0%
10-20	140.7	22.3%	100-110	0	0%
20-30	138.3	21.9%	110-120	0	0%
30-40	111.3	17.7%	120-130	0	0%
40-50	79.4	12.6%	130-140	0	0%
50-60	50.8	8.1%	140-150	0	0%
60-70	29.3	4.6%	150-160	0	0%
70-80	12.8	2.0%	160-170	0	0%
80-90	2.6	0.4%	170-180	0	0%

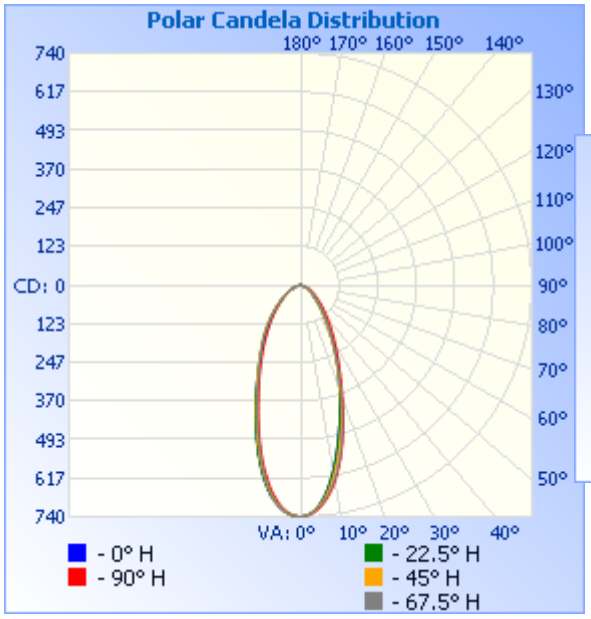
Original

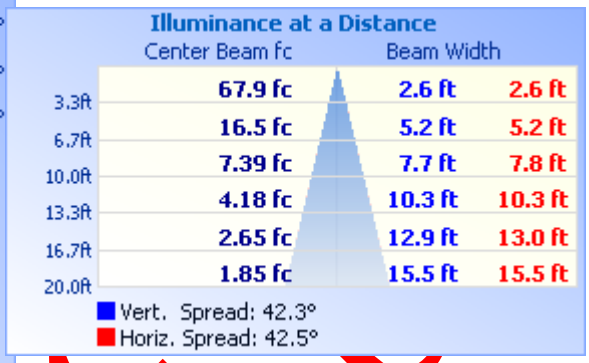
Ningbo TengLi Testing Co., Ltd

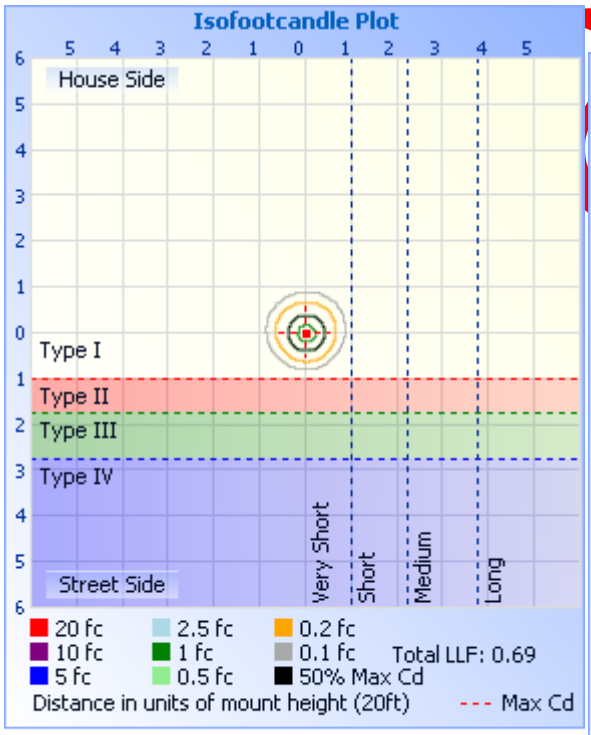
2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

ACCREDITED
Certificate#4703.02

Photometric Data







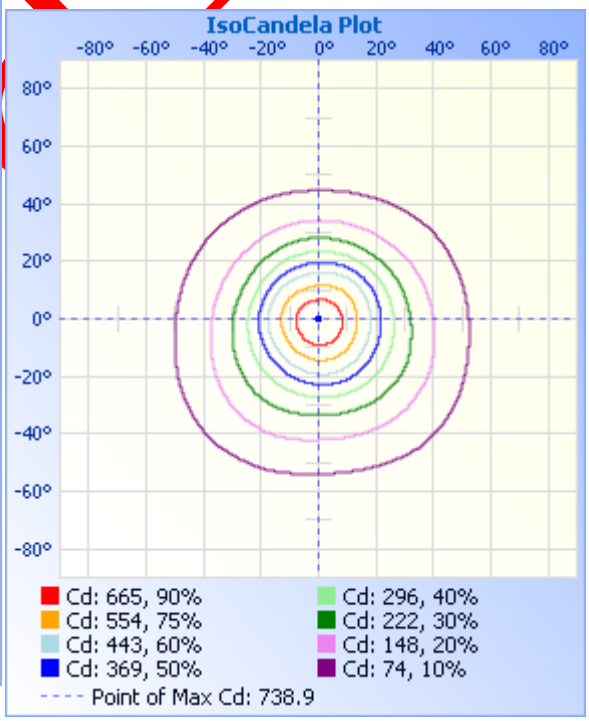


Table--1 UNIT: cd

γ (DEG) \ C (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	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739		
5	708	706	705	704	702	702	705	709	713	714	715	717	717	717	715	713		
10	622	623	623	613	601	600	615	629	635	631	633	641	645	644	638	632		
15	507	511	509	493	476	476	495	512	517	511	511	521	532	535	526	514		
20	394	394	390	378	366	366	374	384	393	393	394	407	418	421	413	402		
25	307	298	287	280	278	275	273	278	295	305	310	318	325	327	325	317		
30	240	225	208	202	202	200	197	204	224	240	252	254	255	258	260	256		
35	187	169	151	145	144	143	143	152	171	190	209	209	203	205	210	208		
40	145	126	112	104	103	103	104	113	129	149	166	168	160	161	165	162		
45	111	94.5	82.7	75.6	74.2	74.9	76.8	84.8	97.8	114	125	129	122	123	126	123		
50	83.0	71.0	61.3	55.7	53.9	54.8	57.2	63.8	74.2	86.5	92.8	96.1	91.1	91.6	93.8	91.6		
55	61.5	53.0	45.6	40.9	38.9	39.3	42.4	47.8	55.9	64.5	68.9	70.5	67.0	67.3	69.0	67.8		
60	45.2	39.1	33.3	29.8	27.7	28.0	30.7	35.1	41.5	47.3	50.5	50.9	48.5	48.8	50.1	49.3		
65	32.1	28.1	24.0	21.2	19.5	19.7	21.9	25.2	29.9	33.8	36.3	35.8	34.4	34.7	35.6	35.4		
70	21.8	19.4	16.4	14.3	13.0	13.1	14.8	17.3	20.4	23.0	25.2	24.4	23.5	23.8	24.6	24.5		
75	12.5	11.2	9.57	8.25	7.53	7.61	8.43	9.96	12.0	13.3	15.1	14.5	14.0	14.2	14.9	14.7		
80	5.92	5.67	5.05	4.52	4.32	4.37	4.66	5.13	5.89	6.04	7.03	6.66	6.34	6.48	6.96	6.90		
85	2.35	2.02	1.68	1.39	1.28	1.34	1.55	1.79	2.20	2.49	2.68	2.75	2.82	2.91	2.93	2.74		
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	0.00	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		

dr

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

2.2.2 Electrical, Photometric and Chromaticity Measurements	**IES LM-79 2008**

Test date	2021-10-15	**Test Ambient:**	25±1 ° C
Test Orientation	As intended	**Stabilization Time (min)**	45
Model Number	LEDRT3G550SC3 /3000K setting	**Total Operating Time(min)**	55

Electrical Measurement:

Sample No.	**Voltage (Vac)**	**Frequency (Hz**	**Current (A)**	**Power (W)**	**Power Factor**
STD210933 NB-A1	120.01	60	0.0599	6.904	0.9597

Sphere-Spectroradiometer Method: (Self-absorption: 1.0226) (4π geometry):

Parameter	**Result**
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	93.6
R9	75
CCT (K)	3094
Duv	-0.0000
Chromaticity (x, y)	x=0.4304 y=0.4017
Chromaticity (u', v')	u'=0.2474 v'=0.5194
Total Luminous (lm)	635.1
Luminous Efficacy (lm/W)	91.99

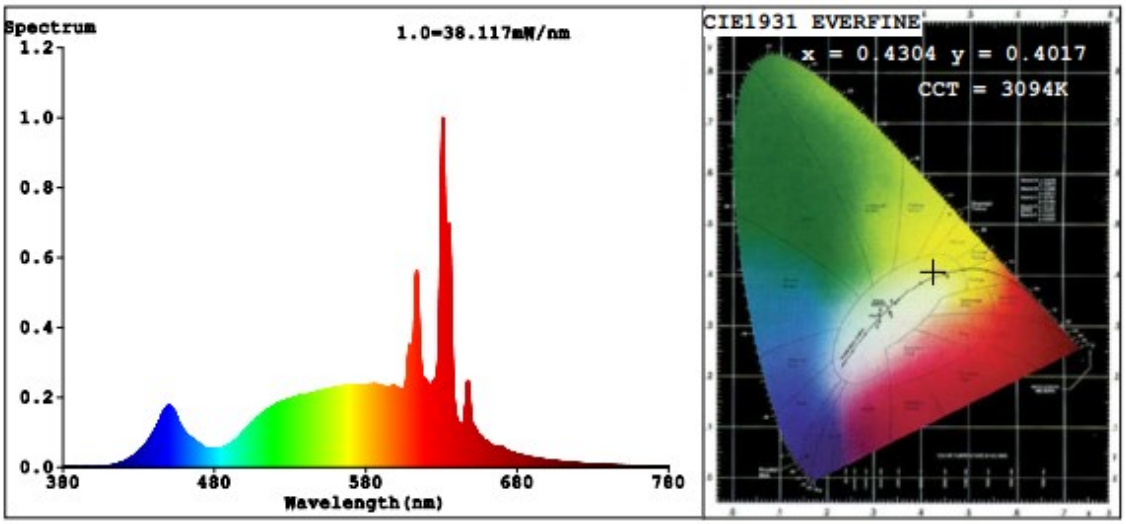
draft

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

ACCREDITED
Certificate#4703.02

Spectral Power Distribution and Chromaticity Diagram



R1 =97	R2 =94	R3 =89	R4 =94	R5 =95	R6 =93	R7 =94	
R8 =91	R9 =75	R10=84	R11=94	R12=78	R13=96	R14=92	R15=94

draft

.2.3 Electrical, Photometric and Chromaticity Measurements	IES LM-79 2008

Test date	2021-10-15	Test Ambient:	25±1 ° C
Test Orientation	As intended	Stabilization Time (min)	45
Model Number	HT-G65ERRD5-812-35D-ZZ1 /3500K setting	Total Operating Time(min)	55

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz	Current (A)	Power (W)	Power Factor
STD210933 NB-A1	120.07	60	0.0597	6.892	0.9609

Sphere-Spectroradiometer Method: (Self-absorption: 1.0226) (4π geometry):

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	94.8
R9	82
CCT (K)	3567
Duv	-0.0007
Chromaticity (x, y)	x=0.4009 y=0.3869
Chromaticity (u', v')	u'=0.2344 v'=0.5090
Total Luminous (lm)	644.7
Luminous Efficacy (lm/W)	93.54

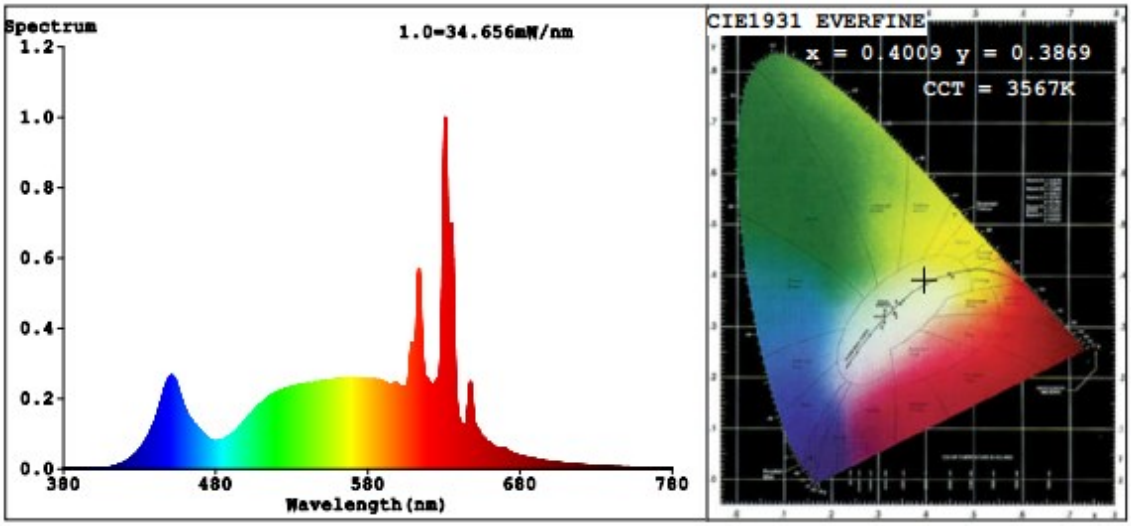
draft

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

ACCREDITED
Certificate#4703.02

Spectral Power Distribution and Chromaticity Diagram



R1 =98	R2 =95	R3 =90	R4 =95	R5 =96	R6 =94	R7 =96	
R8 =94	R9 =82	R10=86	R11=94	R12=77	R13=97	R14=93	R15=97

draft

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

2.2.4 Electrical, Photometric and Chromaticity Measurements	**IES LM-79 2008**

Test date	2021-10-15	**Test Ambient:**	25±1 ° C
Test Orientation	As intended	**Stabilization Time (min)**	45
Model Number	LEDRT3G550SC3 /4000K setting	**Total Operating Time(min)**	55

Electrical Measurement:

Sample No.	**Voltage (Vac)**	**Frequency (Hz**	**Current (A)**	**Power (W)**	**Power Factor**
STD210933 NB-A1	120.02	60	0.0596	6.874	0.9609

Sphere-Spectroradiometer Method: (Self-absorption: 1.0226) (4π geometry):

Parameter	**Result**
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	94.9
R9	83
CCT (K)	4129
Duv	0.0002
Chromaticity (x, y)	x=0.3750 y=0.3737
Chromaticity (u', v')	u'=0.2227 v'=0.4994
Total Luminous (lm)	648.0
Luminous Efficacy (lm/W)	94.27

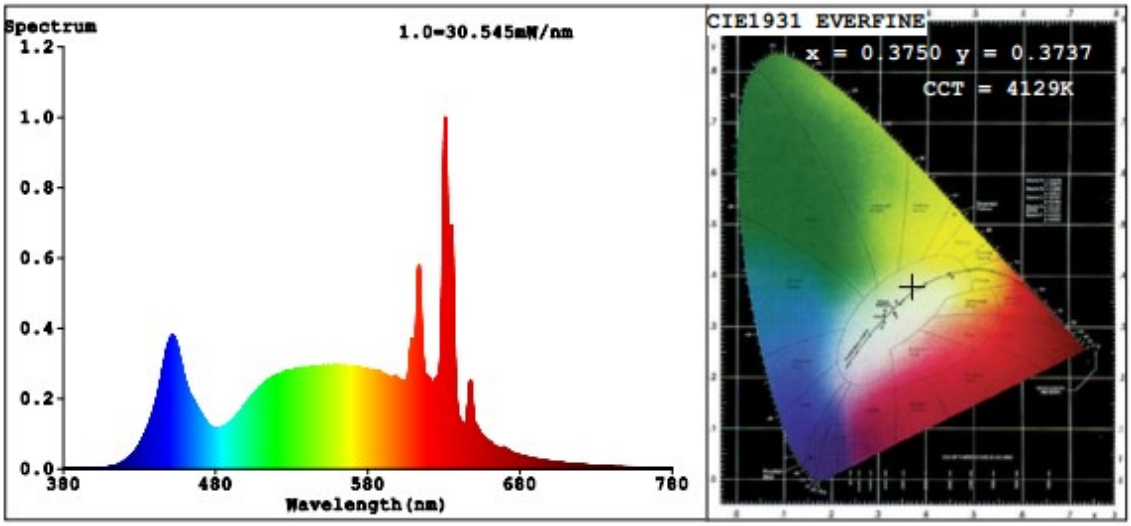
draft

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

ACCREDITED
Certificate#4703.02

Spectral Power Distribution and Chromaticity Diagram



R1 =98	R2 =95	R3 =90	R4 =96	R5 =96	R6 =93	R7 =97	
R8 =95	R9 =83	R10=86	R11=94	R12=72	R13=97	R14=93	R15=97

draft

2.2.5 Electrical, Photometric and Chromaticity Measurements	IES LM-79 2008

Test date	2021-10-15	Test Ambient:	25±1 ° C
Test Orientation	As intended	Stabilization Time (min)	45
Model Number	LEDRT3G550SC3 /5000K setting	Total Operating Time(min)	55

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz	Current (A)	Power (W)	Power Factor
STD210933 NB-A1	120.07	60	0.0592	6.841	0.9624

Sphere-Spectroradiometer Method: (Self-absorption: 1.0226) (4π geometry):

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	92.9
R9	71
CCT (K)	5206
Duv	0.0042
Chromaticity (x, y)	x=0.3400 y=0.3559
Chromaticity (u', v')	u'=0.2064 v'=0.4860
Total Luminous (lm)	640.2
Luminous Efficacy (lm/W)	93.58

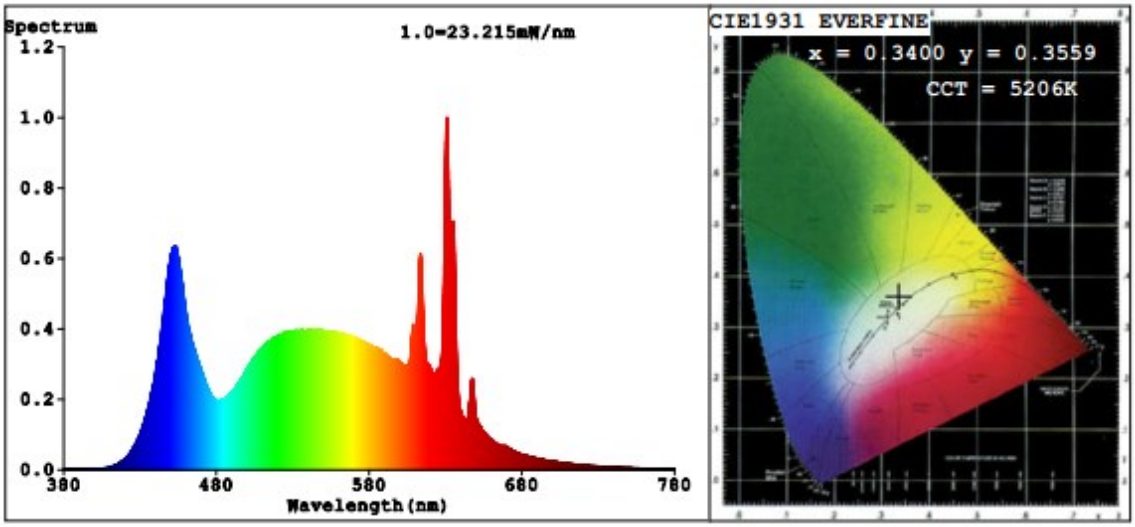
draft

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

ACCREDITED
Certificate#4703.02

Spectral Power Distribution and Chromaticity Diagram



R1 =94	R2 =93	R3 =91	R4 =94	R5 =93	R6 =91	R7 =96	
R8 =91	R9 =71	R10=83	R11=93	R12=70	R13=93	R14=95	R15=92

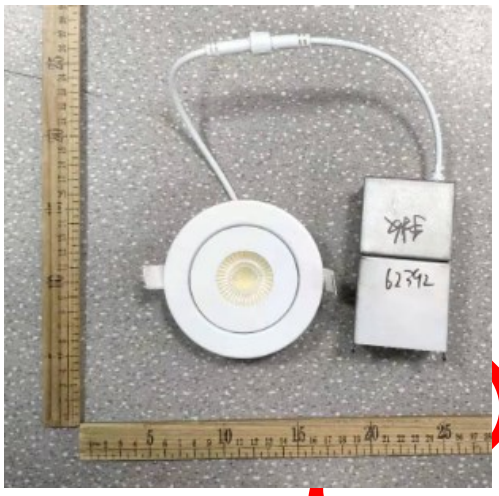
draft

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	2021-02-21	2022-02-20
ST-R-704	Power Meter for Integrating Sphere	2021-01-04	2022-01-03
ST-R-714	Goniophotometer system	Verified by D908S standard lamp	
ST-R-710	Standard Lamp D908S	2021-02-21	2022-02-20
ST-R-711	Power Meter for Goniophotometer	2021-01-04	2022-01-03
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 ******

draft