



Date of issue 2021-02-20

Version 1.0

Total pages 39

Test report of

IES LM-79-08

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Applicant:

LIGHT EFFICIENT DESIGN

Address:

188 S. Northwest Highway Cary, IL 60013 USA

For Product:

2'T8 Lamps -- 1-Lamp External Driver (UL Type C) Lamps

Product Model No.:

RP-T8C-G2-6W-2FT-1L-830-[OCN, Blank]-10V,
RP-T8C-G2-6W-2FT-1L-850-[OCN, Blank]-10V,
RP-T8C-G2-8W-2FT-1L-830-[OCN, Blank]-10V,
RP-T8C-G2-8W-2FT-1L-850-[OCN, Blank]-10V,
RP-T8C-G2-10W-2FT-1L-830-[OCN, Blank]-10V,
RP-T8C-G2-10W-2FT-1L-850-[OCN, Blank]-10V,
RP-T8C-G2-12W-2FT-1L-830-[OCN, Blank]-10V,
RP-T8C-G2-12W-2FT-1L-850-[OCN, Blank]-10V

Test laboratory: Shenzhen Belling Efficiency Testing Lab Co.,Ltd, 1Floor, No.1 Building, Meibaohe Industrial Park, Dalang Street, Longhua District, Shenzhen, Guangdong Prov.518101 China.

Complied by: Jarvis zhang

Review by: Jason zhou

Project Engineer

Technical Manager

Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Shenzhen Belling Efficiency Testing Lab Co.,Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement By NVLAP, NIST, or any agency of the U.S. Government.



1 General

1.1 Product Information

Manufacturer	LIGHT EFFICIENT DESIGN
Manufacturer Address	188 S. Northwest Highway Cary, IL 60013 USA
Brand Name	REMPHOS OR LIGHT EFFICIENT DESIGN
Luminaire Type	2'T8 Lamps -- 1-Lamp External Driver (UL Type C) Lamps
Test Model Number	RP-T8C-G2-6W-2FT-1L-830-[OCN, Blank]-10V, RP-T8C-G2-6W-2FT-1L-850-[OCN, Blank]-10V, RP-T8C-G2-8W-2FT-1L-830-[OCN, Blank]-10V, RP-T8C-G2-8W-2FT-1L-850-[OCN, Blank]-10V, RP-T8C-G2-10W-2FT-1L-830-[OCN, Blank]-10V, RP-T8C-G2-10W-2FT-1L-850-[OCN, Blank]-10V, RP-T8C-G2-12W-2FT-1L-830-[OCN, Blank]-10V, RP-T8C-G2-12W-2FT-1L-850-[OCN, Blank]-10V
Rated Inputs	AC 100-277V 50/60Hz
Field-Adjustable Product	Yes, Wattage setting: 6W, 8W, 10W, 12W
Nominal CCT	3000K, 5000K
Dimming Capability	Continuous
Integral Control Sensors	Optional
Date of Receipt Samples	2020-12-21
Date of test	2020-12-23 to 2021-01-22
Burning Time Before Test	0hour(For New Products)

1.2 Standards or methods

- ANSI C78.377-2017:Specifications for the Chromaticity of Solid State Lighting Products
- ANSI C82.77-10:2014:Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment - Solid State
- CIE Publication No.13.3-1995:Method of Measuring and Specifying Color Rendering of Light Sources
- IESNA LM-79-08 Approved Method: Electric & Photometric Measurement of Solid-state Lighting Products



1.3 Equipment list

Device	Manufacture	Model No.	Serial No.	Calibration due date
Goniophotometric System	SENSING	GMS-3000	N.A	2021-04-02
AC Power Source	ALL POWER	APW-110N	992257	2021-04-02
Total Luminous Flux Standard Lamp	SENSING	110V/100W	S1510065	2021-04-08
Total Spectral Radiant Flux Standard Lamp	SENSING	12V/20W	LSD12201731	2021-04-08
Digital Power Meter	YOKOGAWA	WT310	C2QM02030V	2021-04-02
Integral Sphere	SENSING	SPR-600M	N.A	2021-04-02
Digital Power Meter	YOKOGAWA	WT210	91L929742	2021-04-02
Optical Color and Electrical Measurement System	SENSING	SPR-3000	S1101108	2021-04-02
Environment Measurer	XUYAO	HS-1	N/A	2021-04-08
Environment Measurer	XUYAO	HS-1	N/A	2021-04-08
Stop watch	KISLO	K610	N/A	2021-04-27
Digital Anemometer	TECMAN	TD8901	026141	2021-09-09

Statement of Traceability: Shenzhen Belling Efficiency Testing Lab Co.,Ltd attests that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit (SI).



2 Test conducted and method

2.1 Ambient Condition

The ambient temperature in which measurements are being taken was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, the air flow around the sample(s) being tested did not affect the performance.

2.2 Power Supply Characteristics

The AC power supply had a sinusoidal voltage wave shape at the prescribed frequency (60 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

The voltage of AC power supply (RMS voltage) applied to the device under test was regulated to within ± 0.2 percent under load.

2.3 Seasoning and Stabilization

No seasoning was performed in accordance with IESNA LM-79-08. And before the measurement, the sample was stabilized until the light output and power variations were less than 0.5% in 30 minutes intervals (3 readings, 15 minutes apart).

2.4 Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The integrating sphere system is calibrated by standard light source before measurement. The system and standard light source has been calibrated regularly and traceable to the National Primary Standards. 4π geometry was used during measurement. The product was operated in its intended orientation in application and was recorded in this report.

Integrating Sphere Uncertainty: The uncertainty of the light output (luminous flux) measurements is $U=1.8\%$ ($K=2$), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is $U=20\text{K}$ ($K=2$), at the 95% confidence level. The uncertainty of the CRI is $U=1.8(K=2)$, at the 95% confidence level. The uncertainty of power meter AC current $U=0.18\%$ of rdg, AC Voltage $U=0.16\%$ of rdg, Power $U=0.20\%$ ($K=2$), at the 95% confidence level.



2.5 Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement. The standard light source has been calibrated regularly and traceable to the National Primary Standards.

Type C goniophotometer was used for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. The product was operated in its intended orientation in application and was recorded in this report. The method according to IESNA LM-79-08 following chapter.

Goniophotometer Uncertainty :The uncertainty of the luminous intensity is $U=1.6\%$ ($K=2$), at the 95% confidence level.



3 Test Result Summary

3.1 Integrating Sphere System (Total operating time for integrating sphere test: 1.0 hour)

3.1.1 Model Number: RP-T8C-G2-6W-2FT-1L-830-[OCN, Blank]-10V(Bare lamp)

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.12	60	0.049	5.79	0.977

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
742.11	128.17	3008

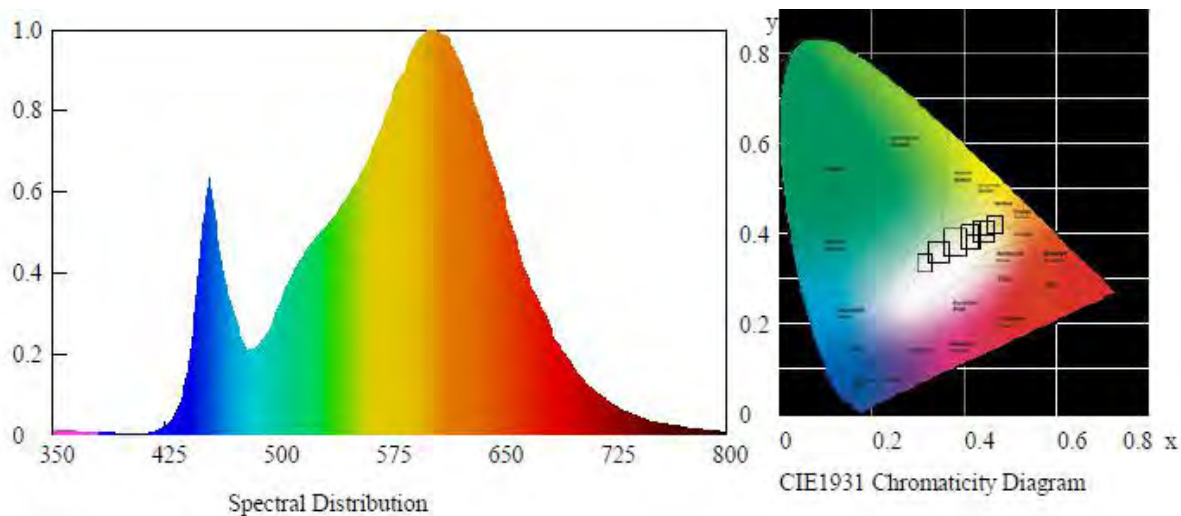
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00193	0.4336	0.3981	0.2510	0.5185

Color Rendering

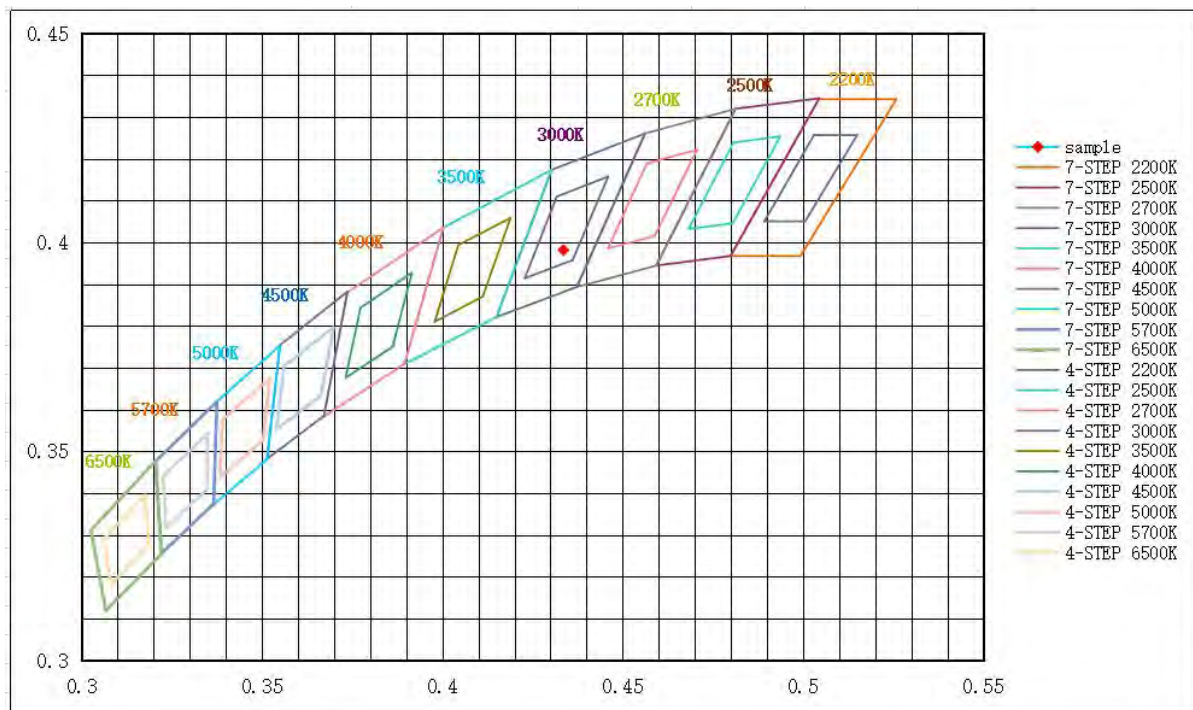
CRI	R9	Rf	Rg	Rcs,h1(%)
83.7	14	85	96	-11

Spectral Distribution





7/4 Step Quadrangle





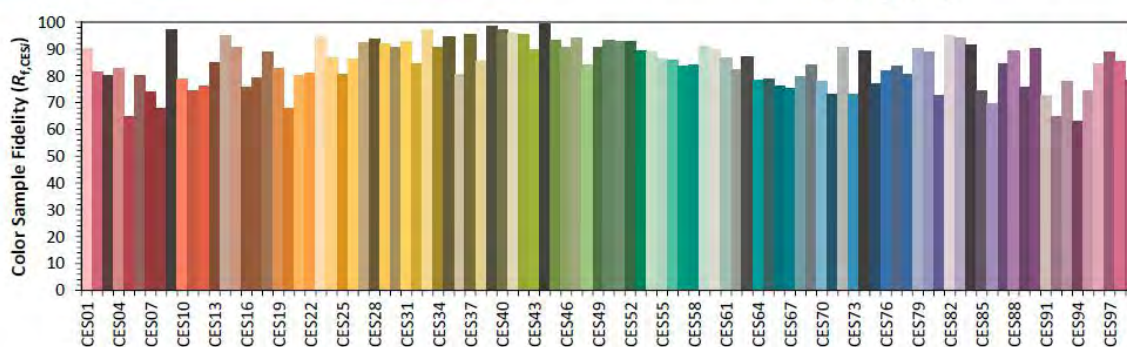
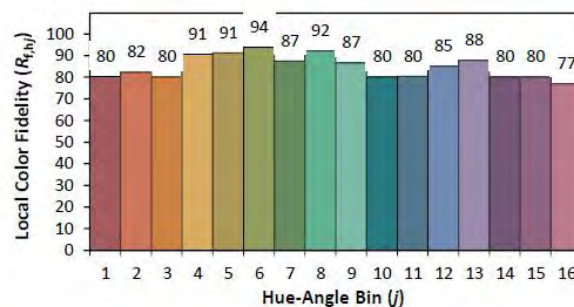
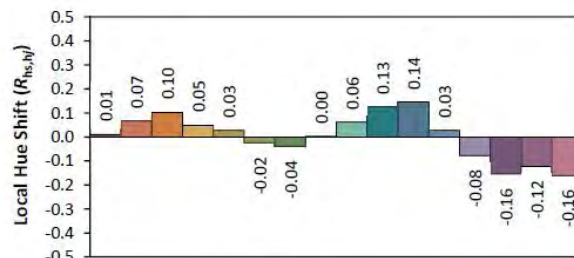
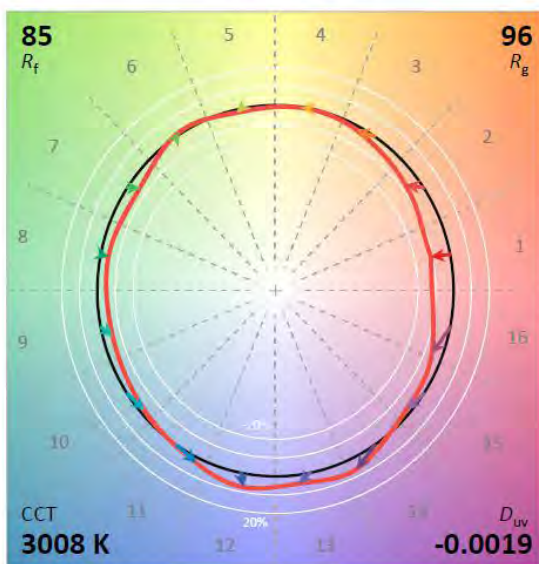
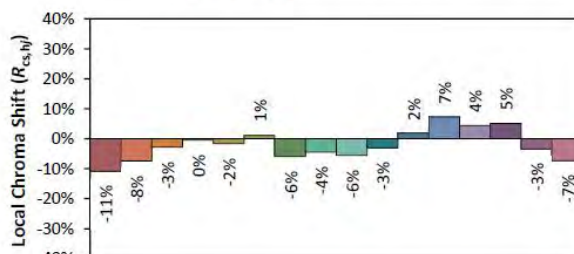
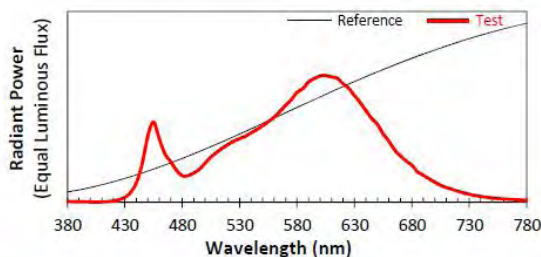
ANSI/IES TM-30-18 Color Rendition Report

Source: BL210126001-9

Manufacturer: LIGHT EFFICIENT DESIGN

Date: 2020/1/27

Model: RP-T8C-G2-6W-2FT-1L-830-[OCN, Blank]-10V



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

x 0.4336
 y 0.3981
 u' 0.2510
 v' 0.5185

CIE 13.3-1995
(CRI)

R_a 84
 R_g 13

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

**3.1.2 Model Number: RP-T8C-G2-6W-2FT-1L-850-[OCN, Blank]-10V(Bare lamp)****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.11	60	0.049	5.79	0.977

Photometric data

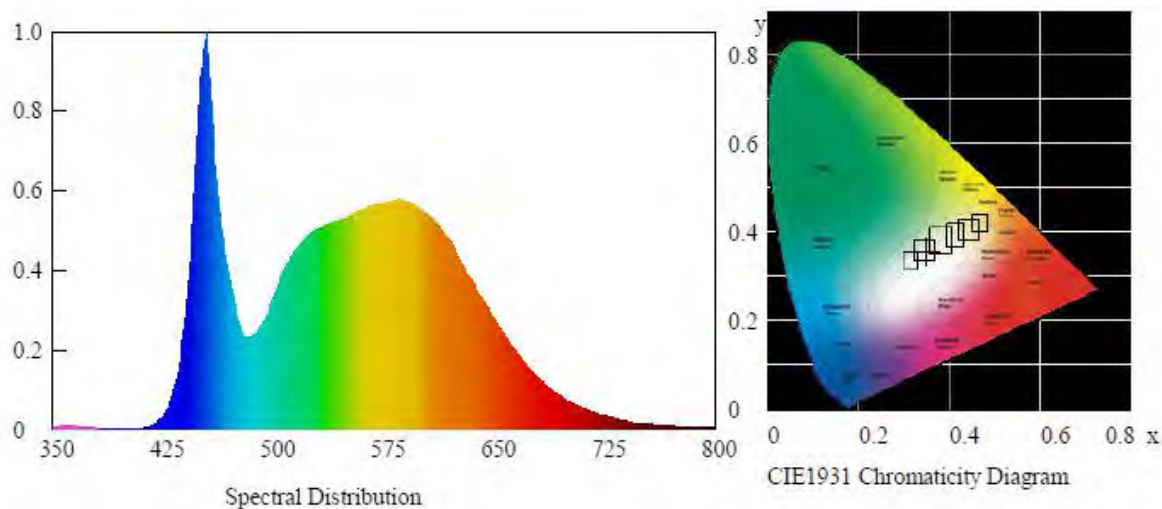
Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
757.74	130.87	4971

Chromaticity Coordinate

Duv	x	y	u'	v'
+0.00262	0.3465	0.3580	0.2099	0.4880

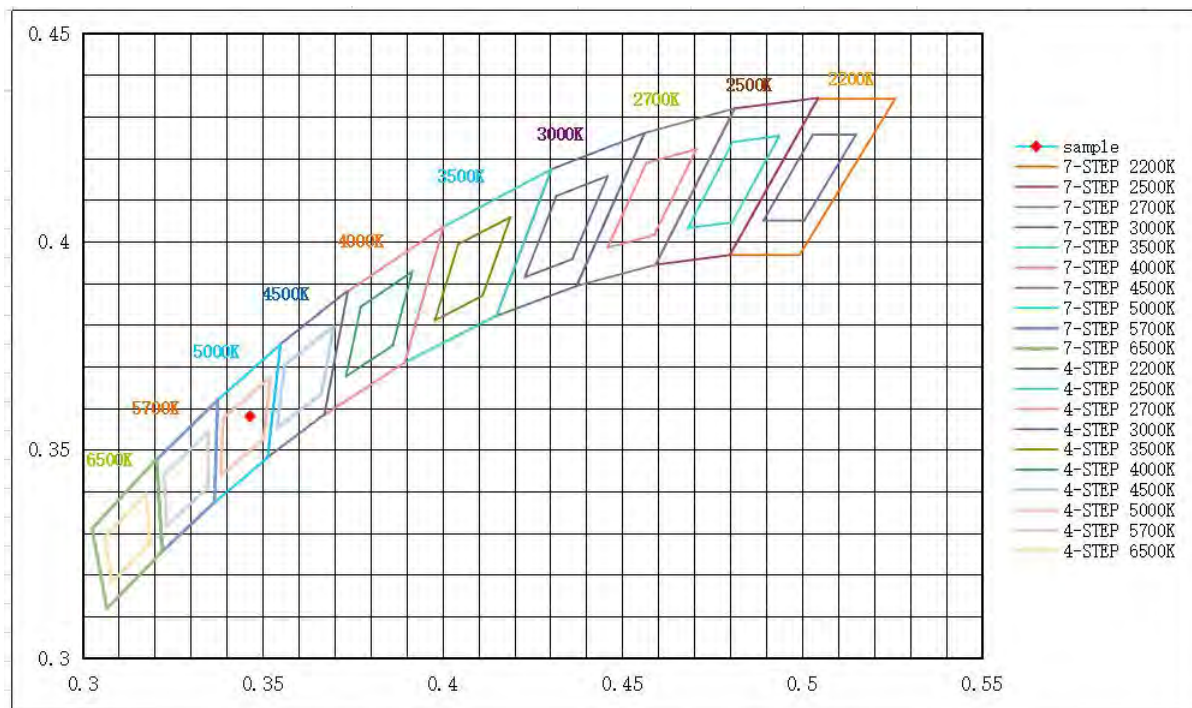
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.7	14	84	95	-12

Spectral Distribution



7/4 Step Quadrangle





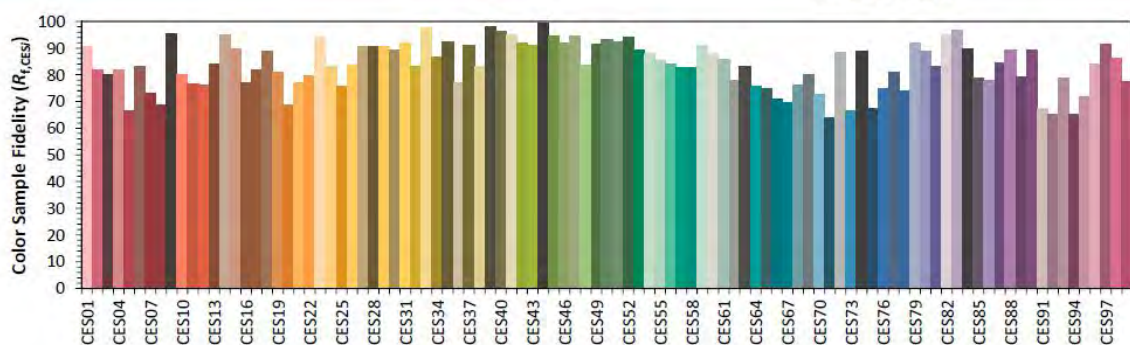
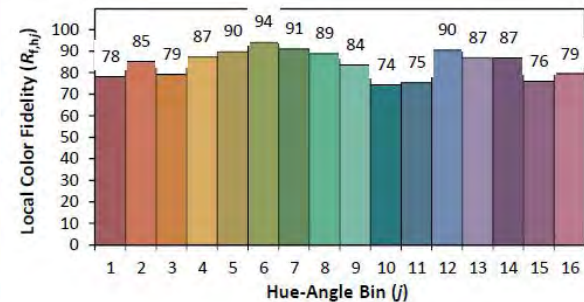
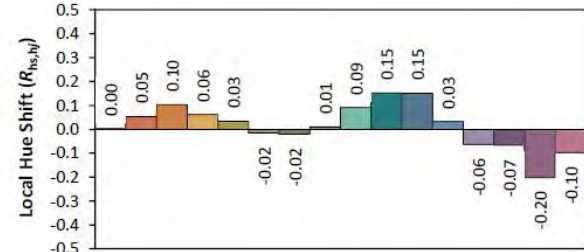
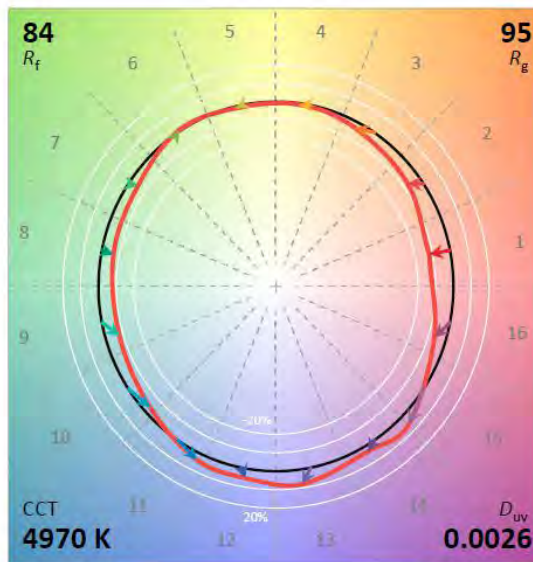
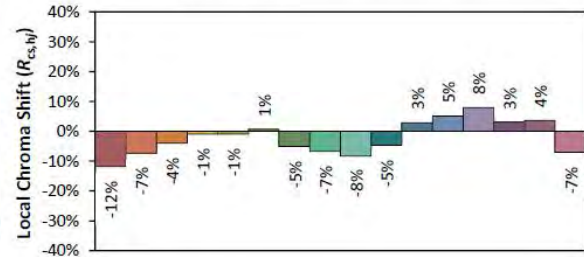
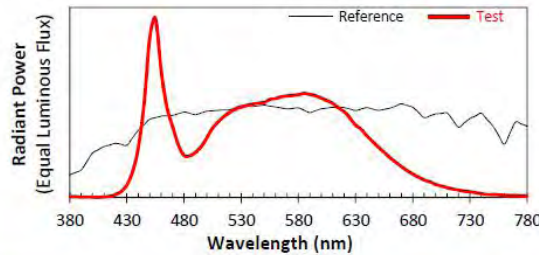
ANSI/IES TM-30-18 Color Rendition Report

Source: BL210126001-9

Manufacturer: LIGHT EFFICIENT DESIGN

Date: 2020/1/27

Model: RP-T8C-G2-6W-2FT-1L-850-[OCN, Blank]-10V



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

x 0.3465
 y 0.3580
 u' 0.2099
 v' 0.4880

CIE 13.3-1995
(CRI)

R_a 84
 R_9 13

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

**3.1.3 Model Number: RP-T8C-G2-8W-2FT-1L-830-[OCN, Blank]-10V(Bare lamp)****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.08	60	0.067	7.93	0.986

Photometric data

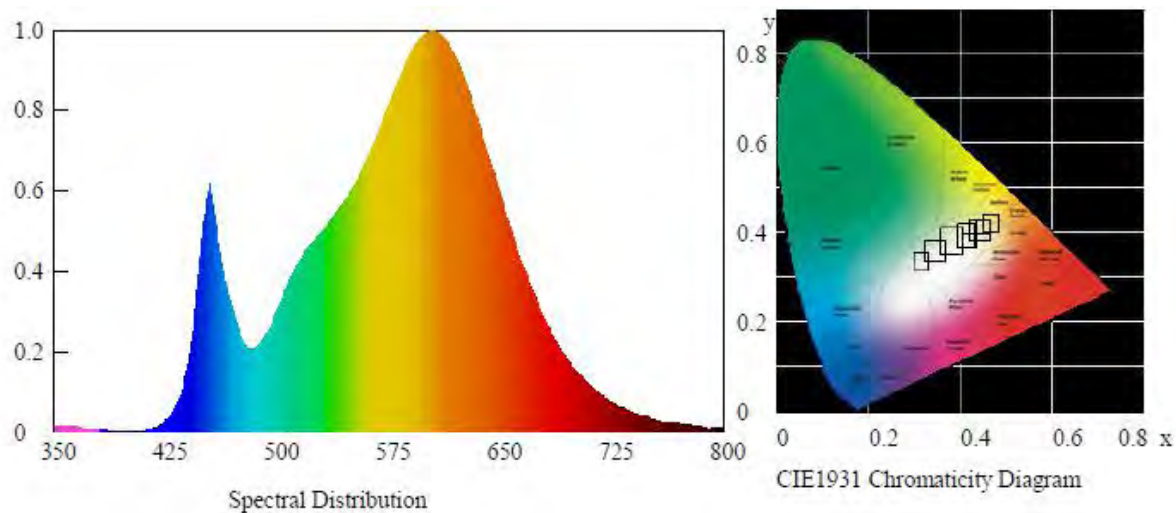
Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
966.75	121.91	3010

Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00205	0.4333	0.3978	0.2510	0.5183

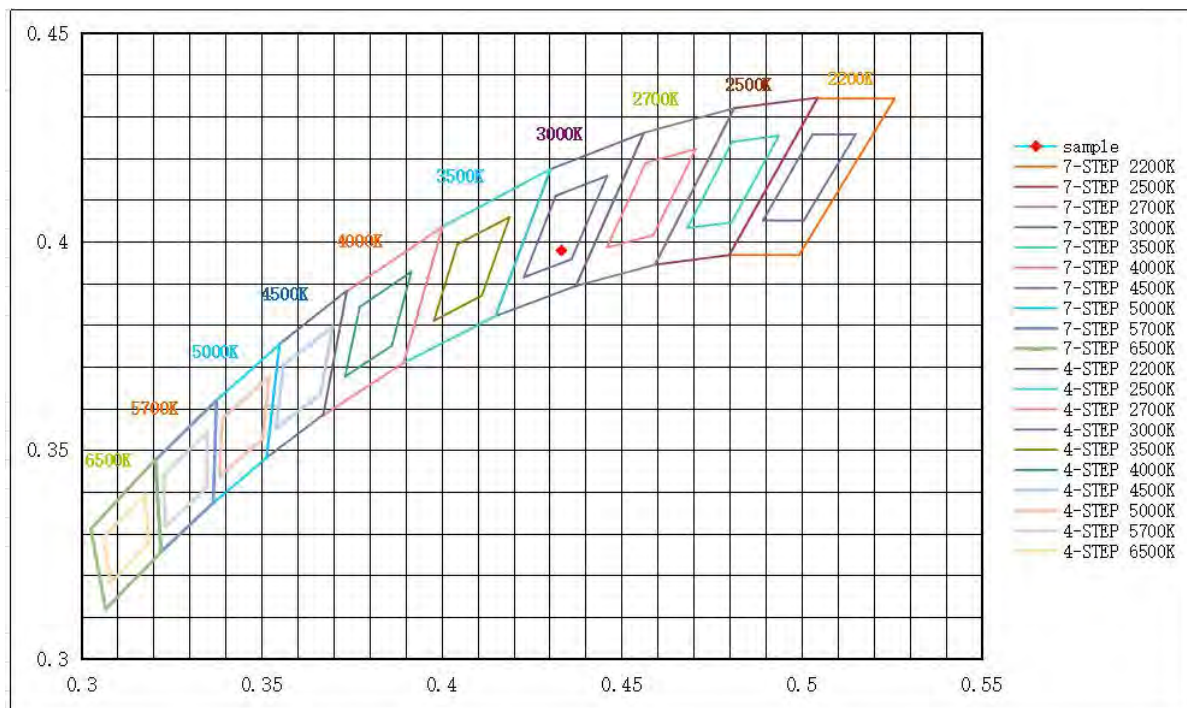
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.4	12	84	96	-11

Spectral Distribution



7/4 Step Quadrangle





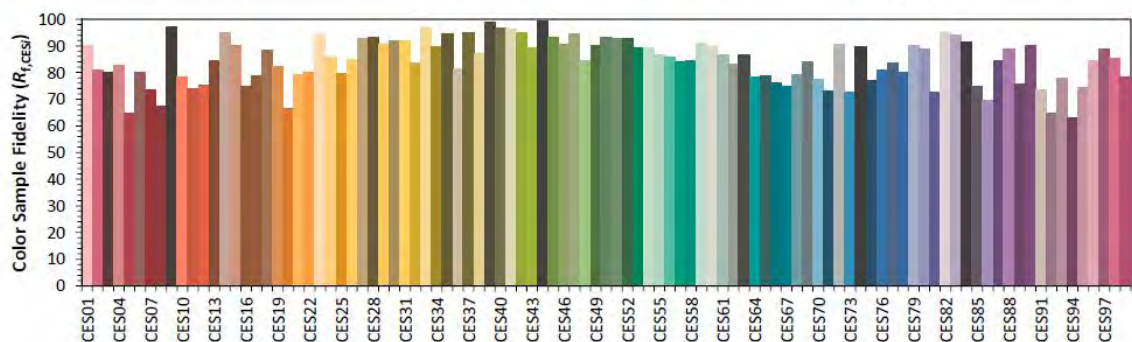
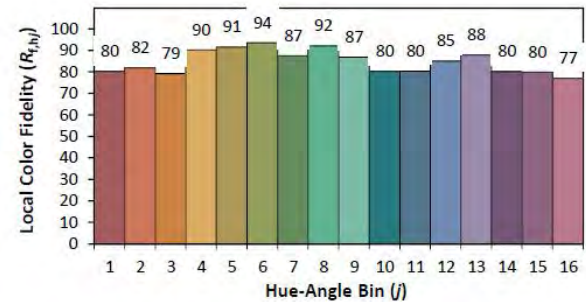
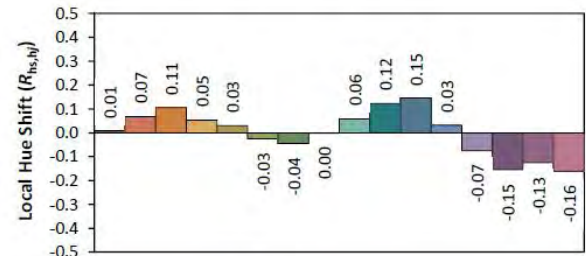
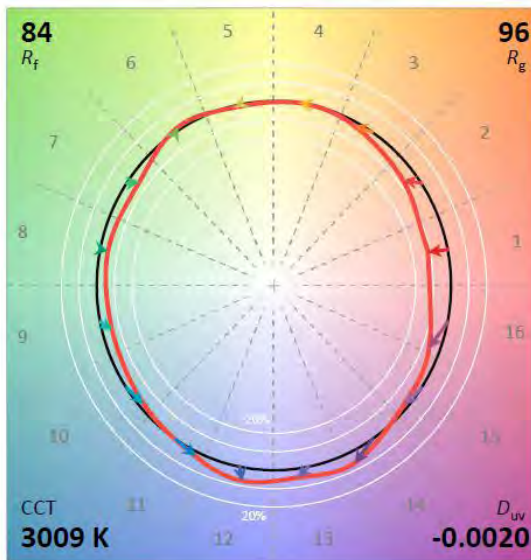
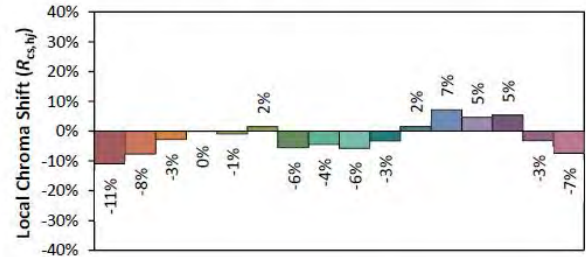
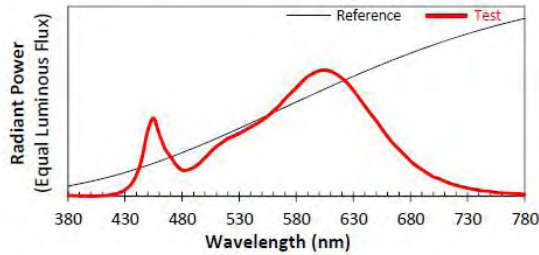
ANSI/IES TM-30-18 Color Rendition Report

Source: BL210126001-9

Manufacturer: LIGHT EFFICIENT DESIGN

Date: 2020/1/27

Model: RP-T8C-G2-8W-2FT-1L-830-[OCN, Blank]-10V



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

x 0.4333
 y 0.3977
 u' 0.2510
 v' 0.5183

CIE 13.3-1995
(CRI)

R_a 83
 R_g 12

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

**3.1.4 Model Number: RP-T8C-G2-8W-2FT-1L-850-[OCN, Blank]-10V(Bare lamp)****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.09	60	0.067	7.95	0.986

Photometric data

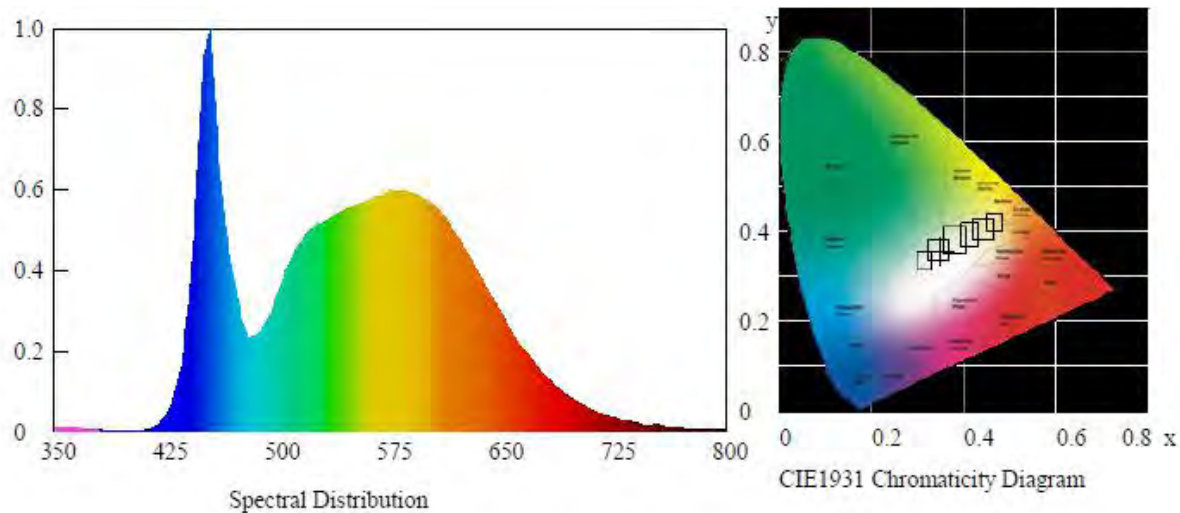
Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
990.40	124.58	4970

Chromaticity Coordinate

Duv	x	y	u'	v'
+0.0027	0.3465	0.3582	0.2099	0.4881

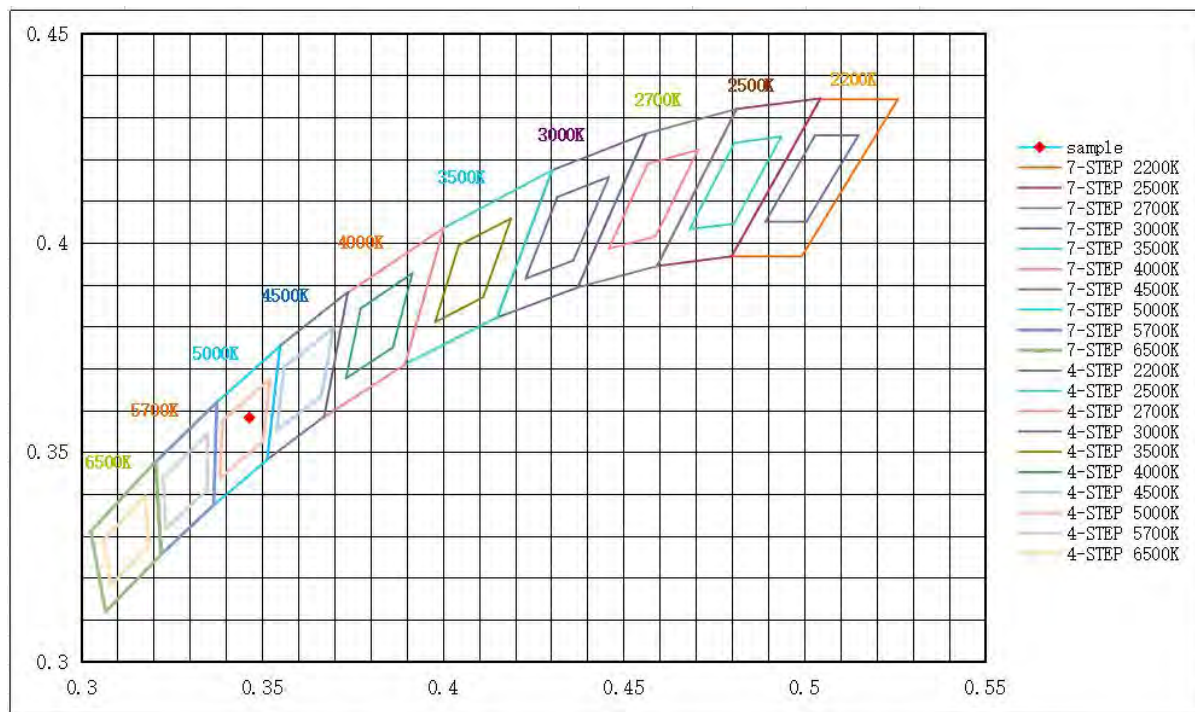
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.4	13	84	95	-12

Spectral Distribution



7/4 Step Quadrangle





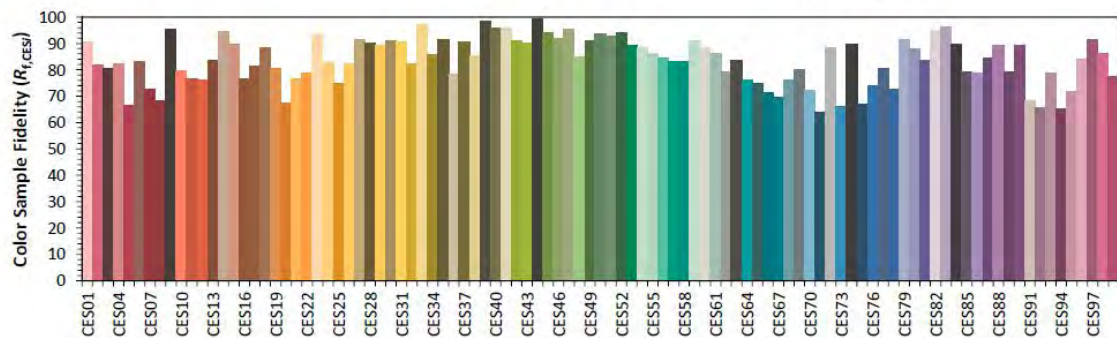
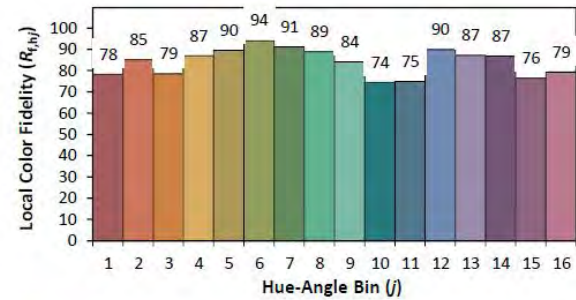
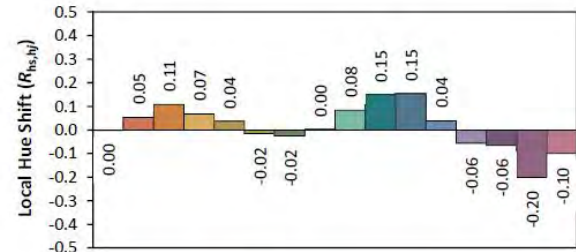
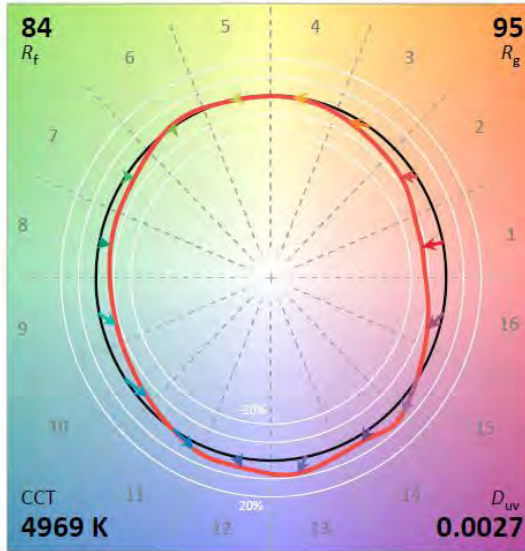
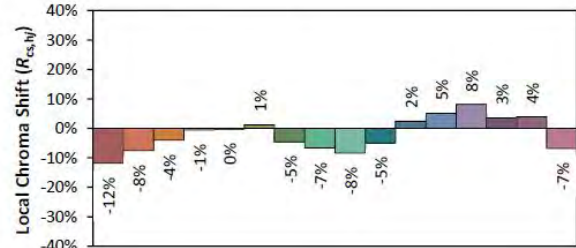
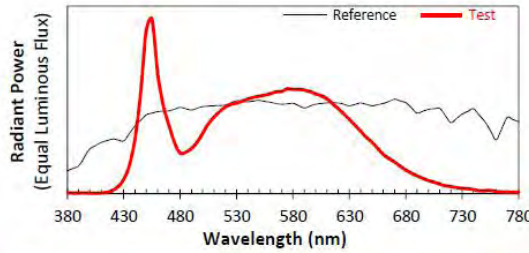
ANSI/IES TM-30-18 Color Rendition Report

Source: BL210126001-9

Manufacturer: LIGHT EFFICIENT DESIGN

Date: 2020/1/27

Model: RP-T8C-G2-8W-2FT-1L-850-[OCN, Blank]-10V



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

x 0.3465
 y 0.3582
 u' 0.2099
 v' 0.4881

CIE 13.3-1995
(CRI)

R_a 83
 R_g 13

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

**3.1.5 Model Number: RP-T8C-G2-10W-2FT-1L-830-[OCN, Blank]-10V(Bare lamp)****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.03	60	0.083	9.85	0.989

Photometric data

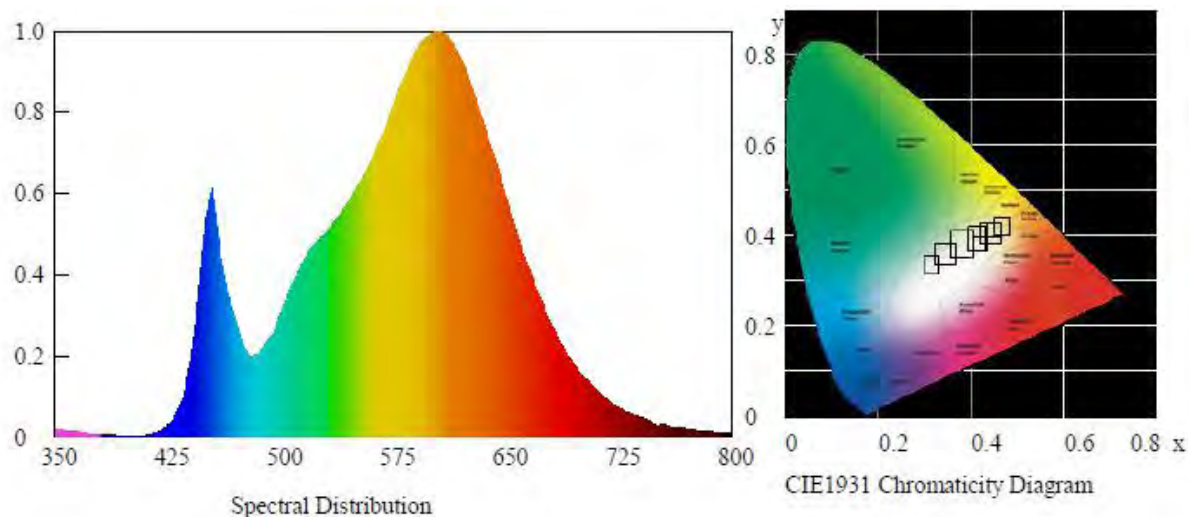
Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
1173.65	119.15	3015

Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00175	0.4334	0.3985	0.2507	0.5186

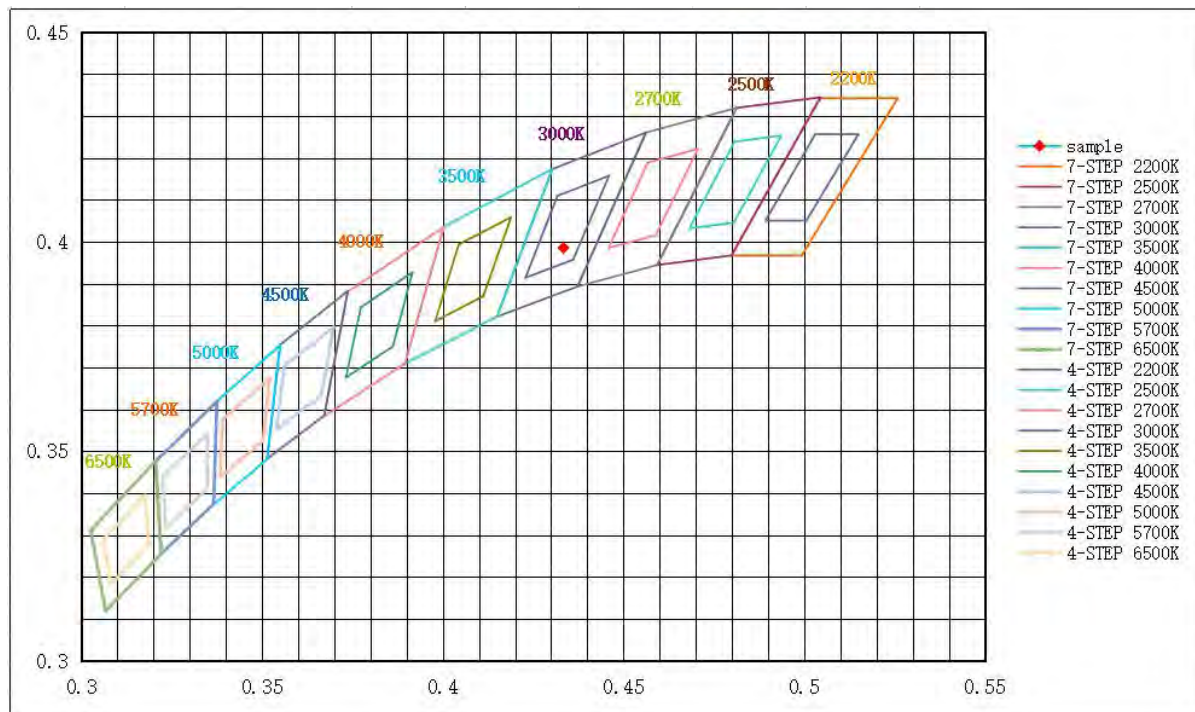
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.3	12	85	96	-11

Spectral Distribution



7/4 Step Quadrangle





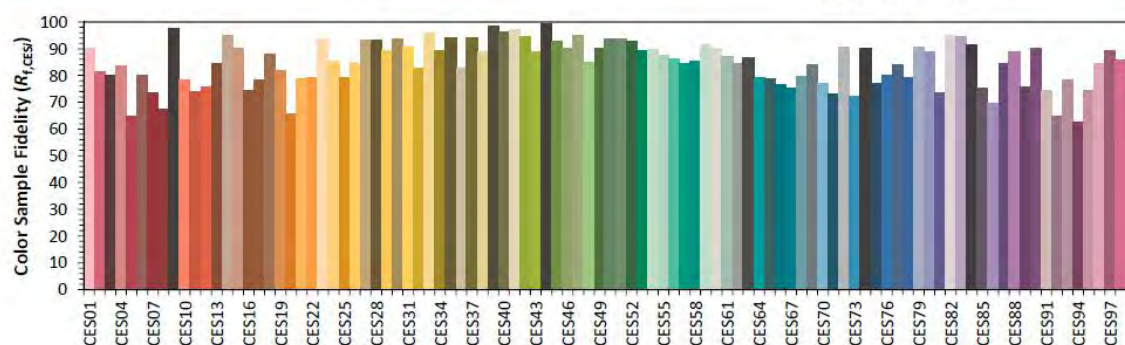
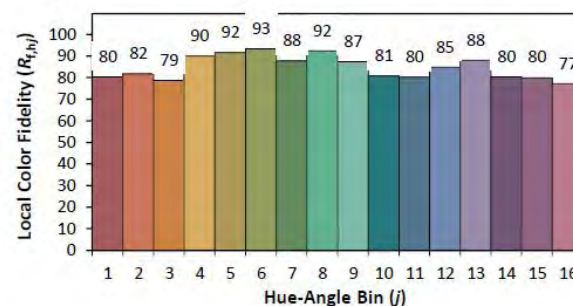
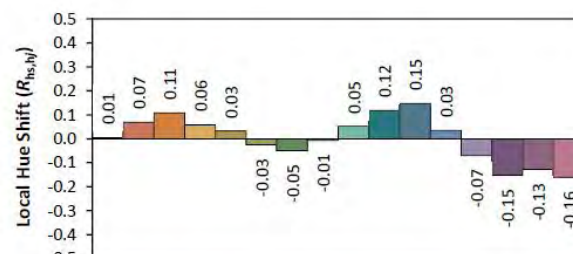
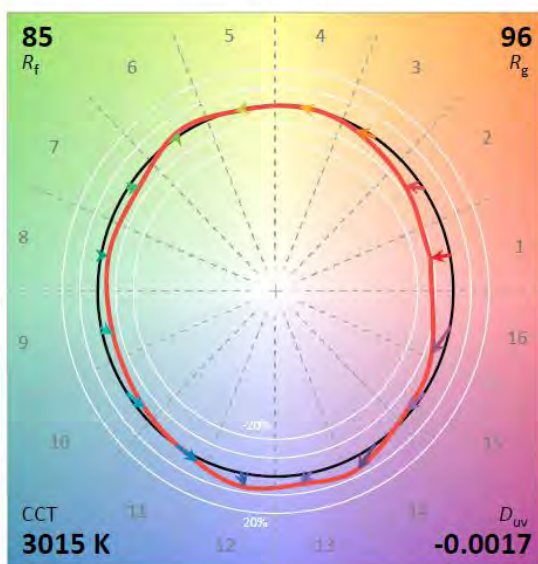
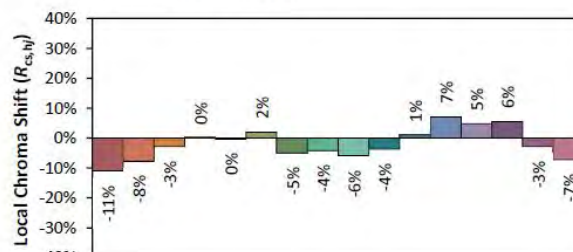
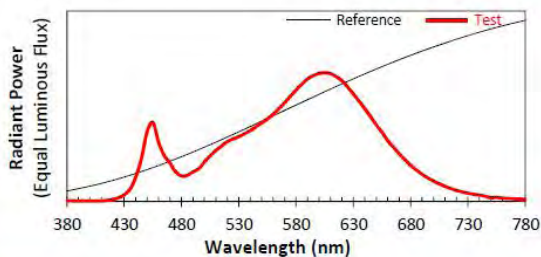
ANSI/IES TM-30-18 Color Rendition Report

Source: BL210126001-9

Manufacturer: LIGHT EFFICIENT DESIGN

Date: 2020/1/27

Model: RP-T8C-G2-10W-2FT-1L-830-[OCN, Blank]-10V



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

x 0.4334
 y 0.3985
 u' 0.2507
 v' 0.5186

CIE 13.3-1995
(CRI)

R_a 83
 R_g 12

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

**3.1.6 Model Number: RP-T8C-G2-10W-2FT-1L-850-[OCN, Blank]-10V(Bare lamp)****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
119.98	60	0.083	9.84	0.988

Photometric data

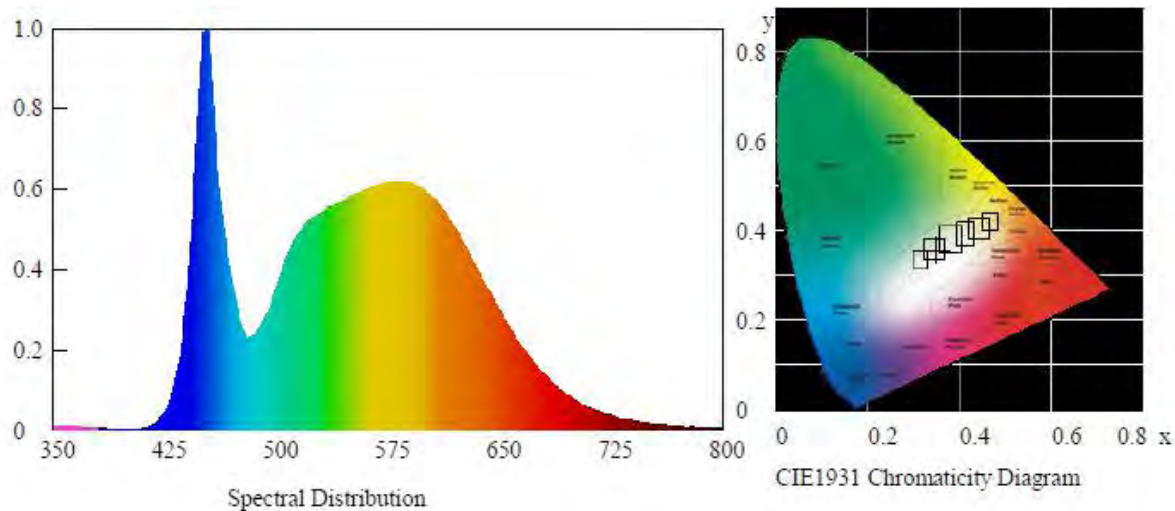
Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
1199.13	121.86	4948

Chromaticity Coordinate

Duv	x	y	u'	v'
+0.00288	0.3472	0.3591	0.2100	0.4886

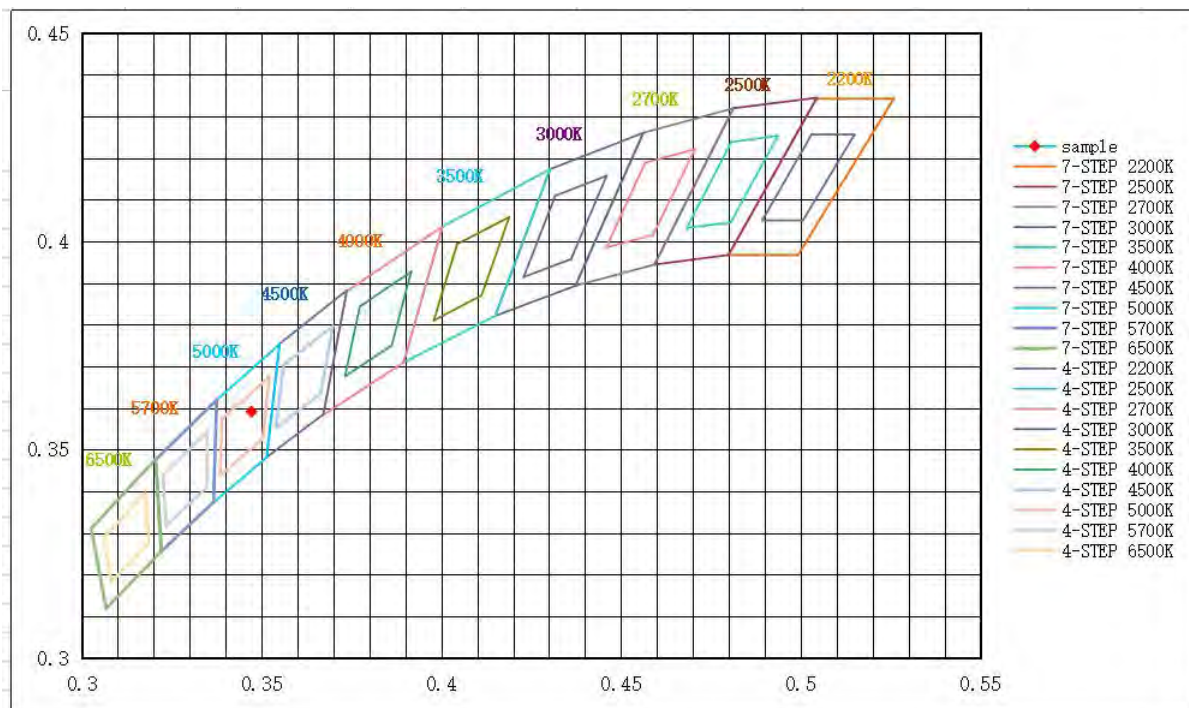
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.1	11	83	96	-11

Spectral Distribution



7/4 Step Quadrangle





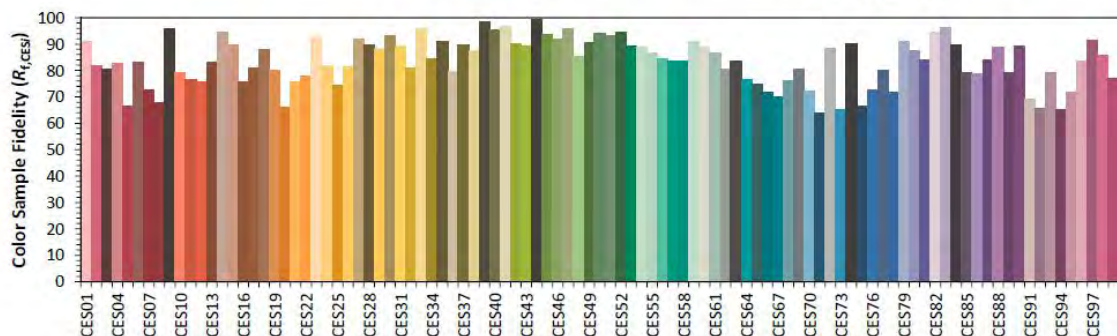
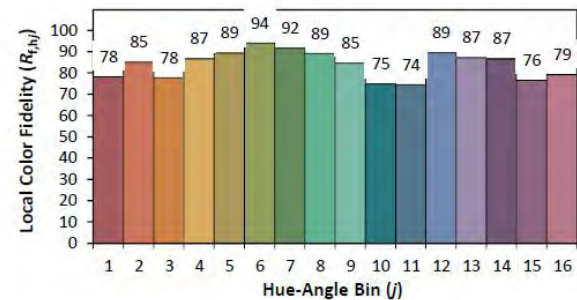
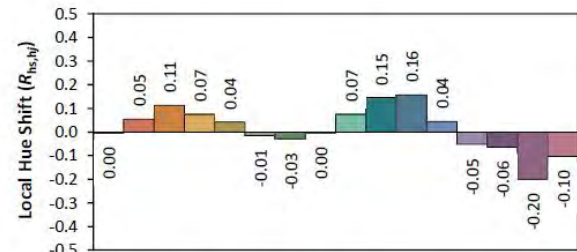
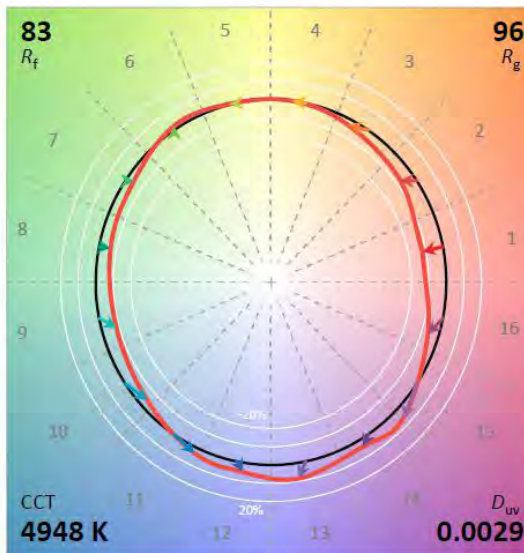
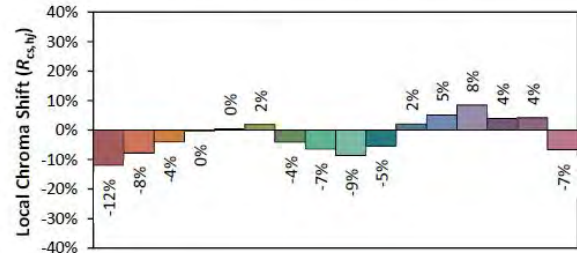
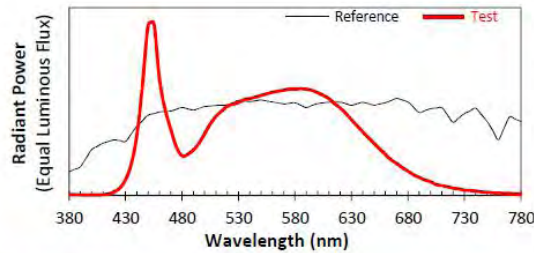
ANSI/IES TM-30-18 Color Rendition Report

Source: BL210126001-9

Manufacturer: LIGHT EFFICIENT DESIGN

Date: 2020/1/27

Model: RP-T8C-G2-10W-2FT-1L-850-[OCN, Blank]-10V



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

x 0.3472
 y 0.3591
 u' 0.2100
 v' 0.4886

CIE 13.3-1995
(CRI)

R_a 83
 R_g 11

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

**3.1.7 Model Number: RP-T8C-G2-12W-2FT-1L-830-[OCN, Blank]-10V(Bare lamp)****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.13	60	0.101	12.01	0.993

Photometric data

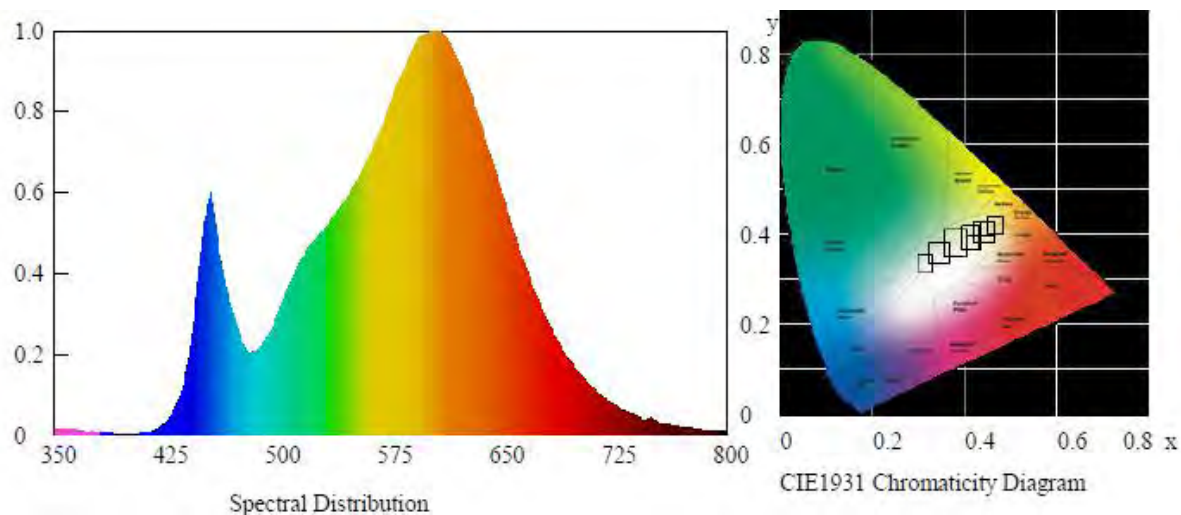
Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
1402.96	116.82	3025

Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00175	0.4327	0.3983	0.2503	0.5184

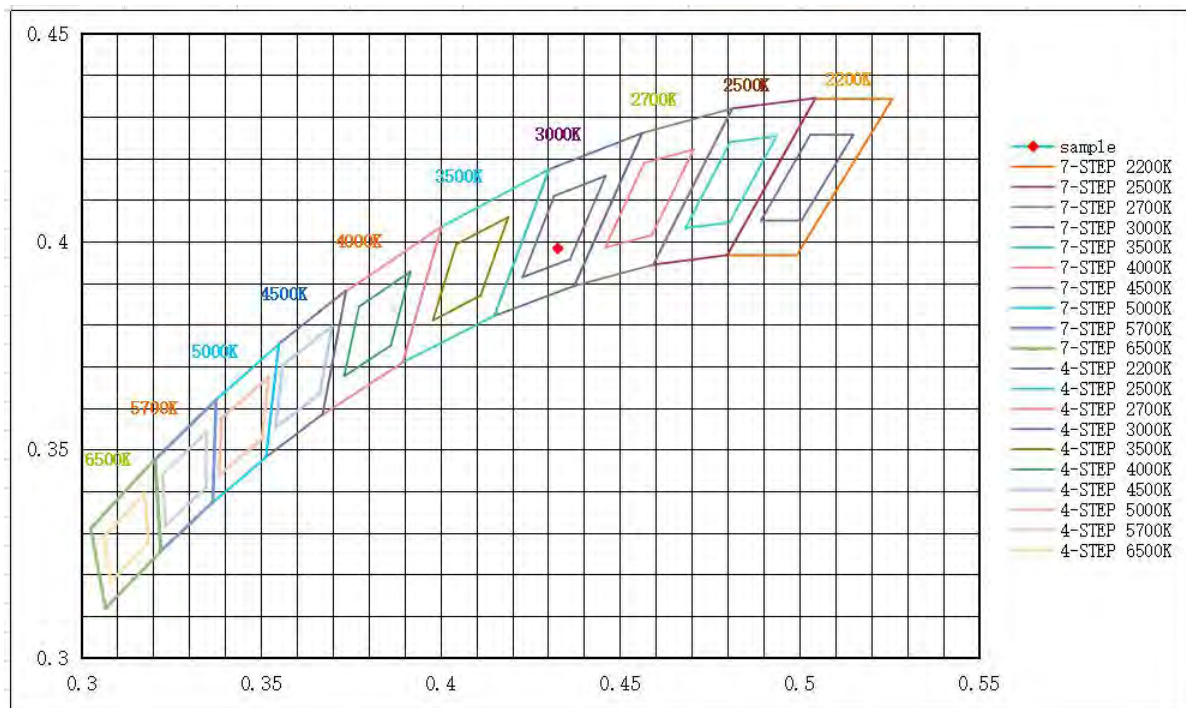
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.2	11	84	96	-11

Spectral Distribution



7/4 Step Quadrangle





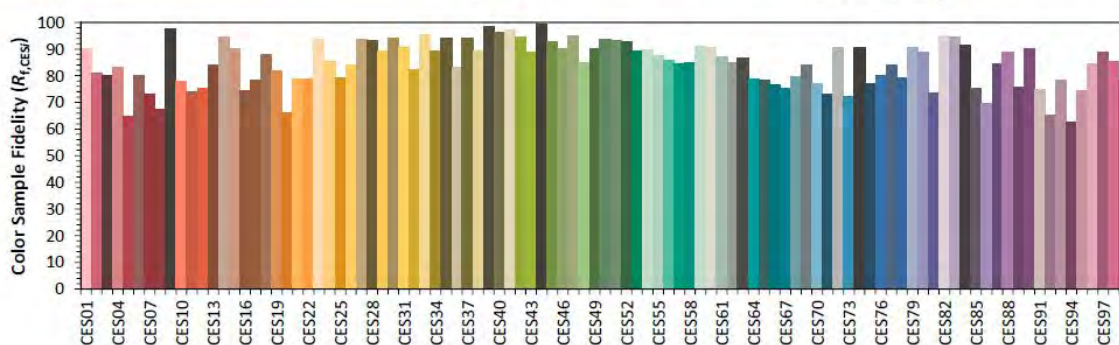
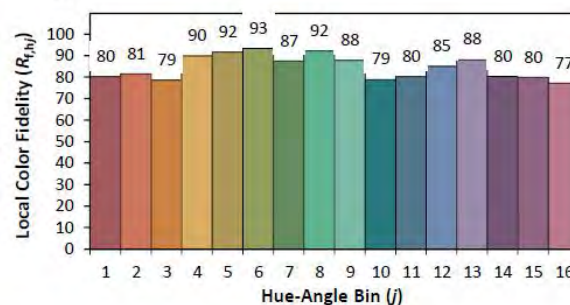
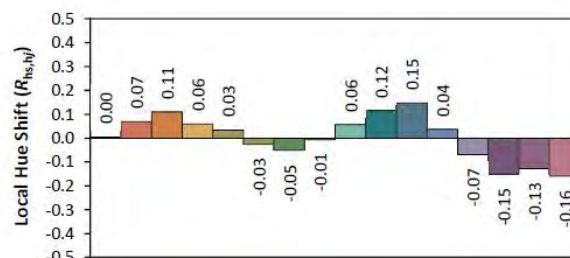
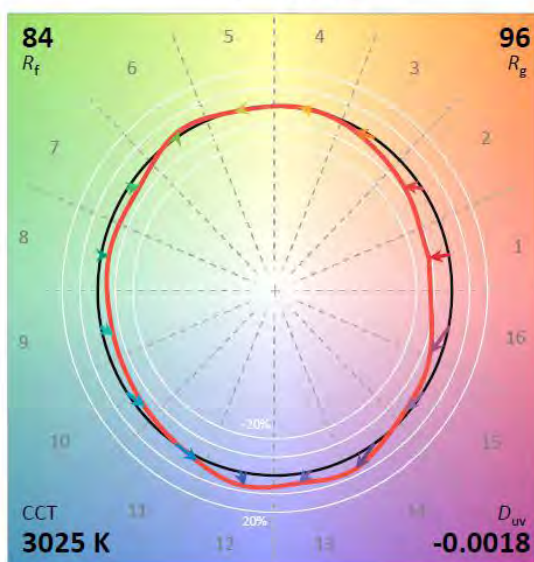
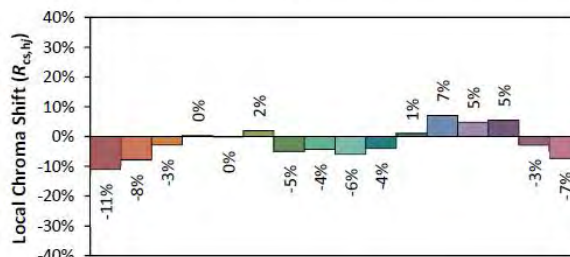
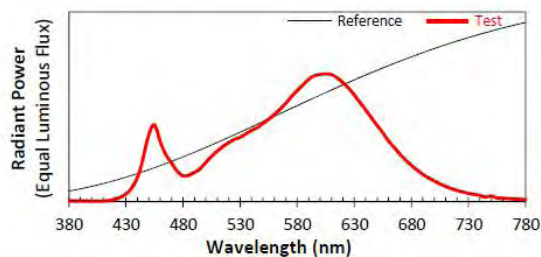
ANSI/IES TM-30-18 Color Rendition Report

Source: BL210126001-9

Manufacturer: LIGHT EFFICIENT DESIGN

Date: 2020/1/27

Model: RP-T8C-G2-12W-2FT-1L-830-[OCN, Blank]-10V



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

x 0.4327
 y 0.3983
 u' 0.2503
 v' 0.5184

CIE 13.3-1995
(CRI)

R_a 83
 R_g 11

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

**3.1.8 Model Number: RP-T8C-G2-12W-2FT-1L-850-[OCN, Blank]-10V(Bare lamp)****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.01	60	0.101	12.03	0.993

Photometric data

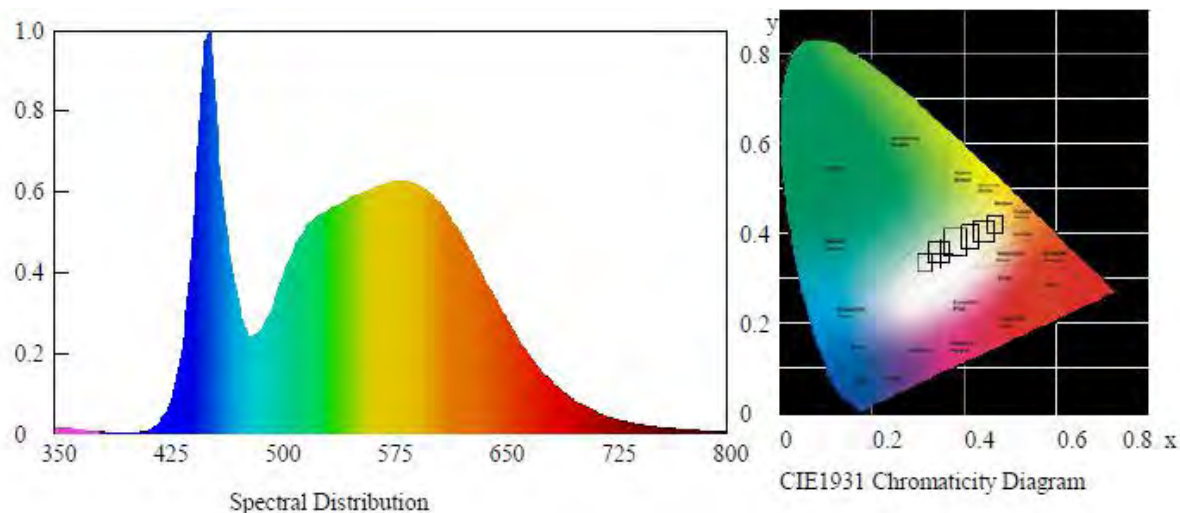
Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
1437.96	119.53	4979

Chromaticity Coordinate

Duv	x	y	u'	v'
+0.00249	0.3462	0.3575	0.2099	0.4877

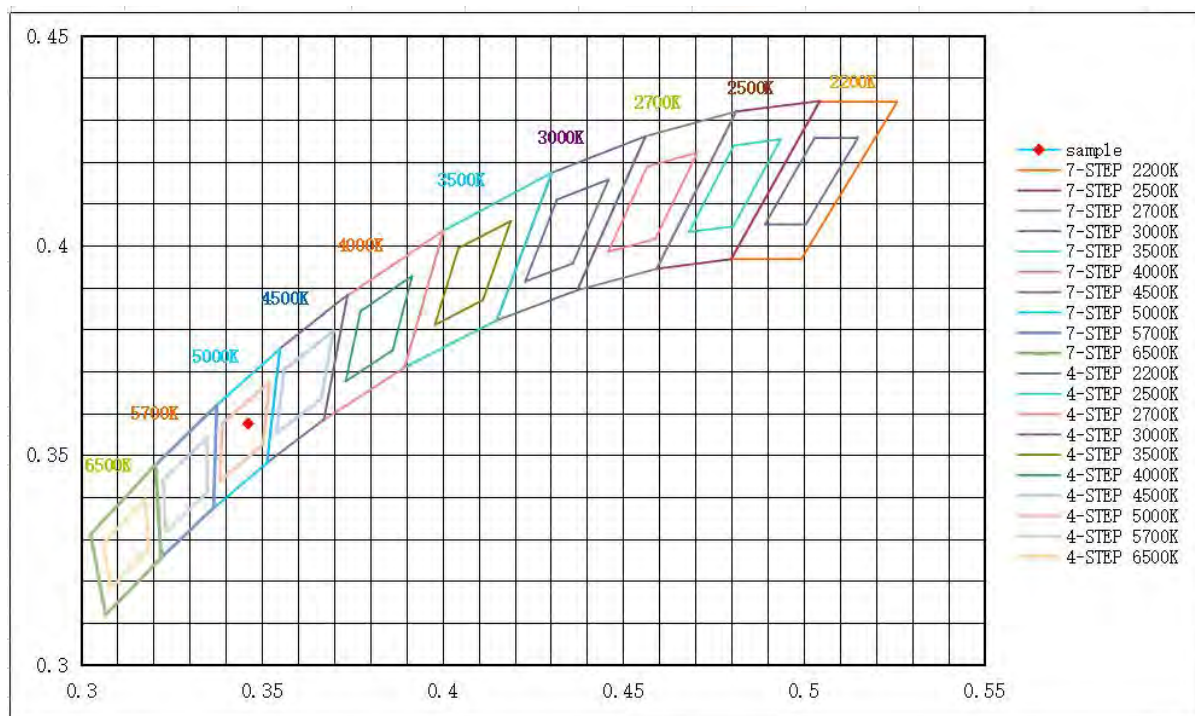
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.1	12	84	96	-12

Spectral Distribution



7/4 Step Quadrangle





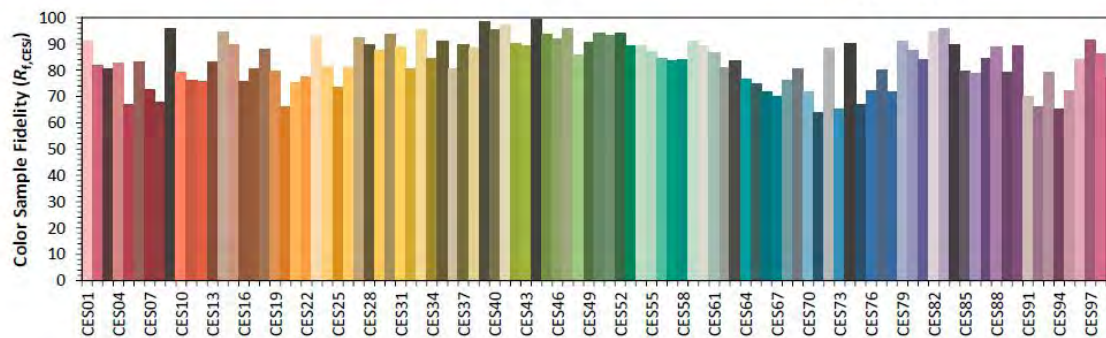
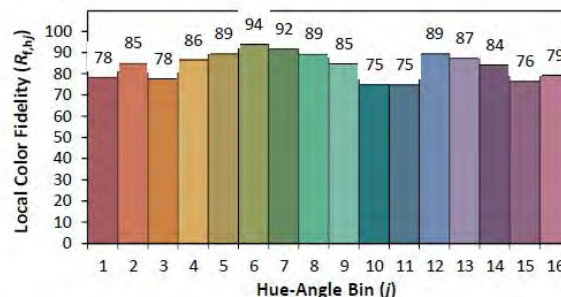
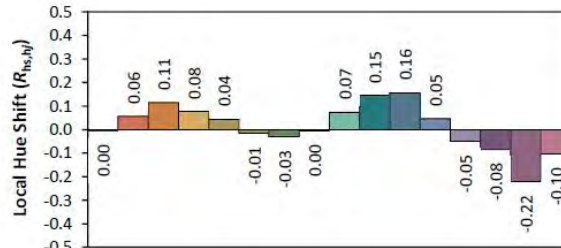
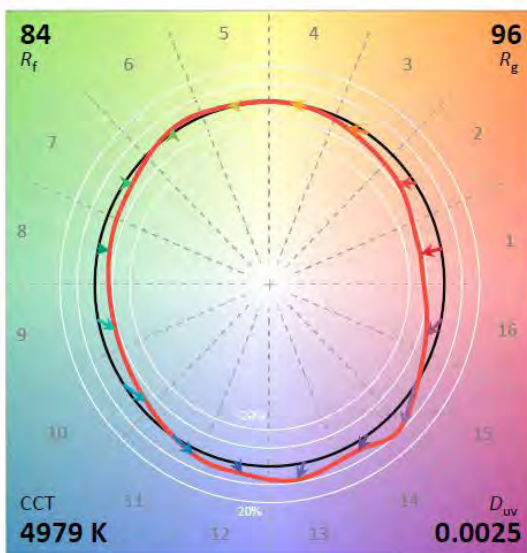
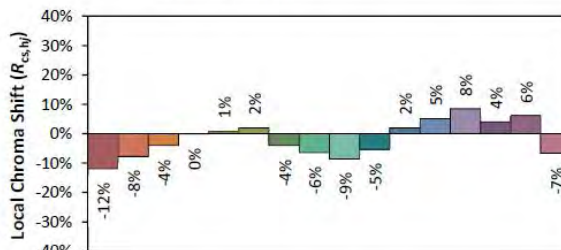
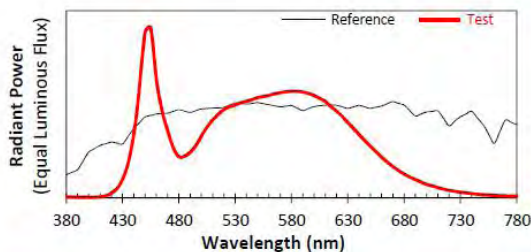
ANSI/IES TM-30-18 Color Rendition Report

Source: BL210126001-9

Manufacturer: LIGHT EFFICIENT DESIGN

Date: 2020/1/27

Model: RP-T8C-G2-12W-2FT-1L-850-[OCN, Blank]-10V



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

 x 0.3462 y 0.3575 u' 0.2099 v' 0.4877CIE 13.3-1995
(CRI) R_a 83 R_g 12

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



3.2 Goniophotometer System (Total operating time for luminous intensity distribution: 1.0 hour)

3.2.1 Model Number: RP-T8C-G2-12W-2FT-1L-830-[OCN, Blank]-10V(Bare lamp)

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.090	60	0.101	11.980	0.991

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Beam Angle(°)
1395.86	116.52	185.1

**Zonal Flux Diagram**

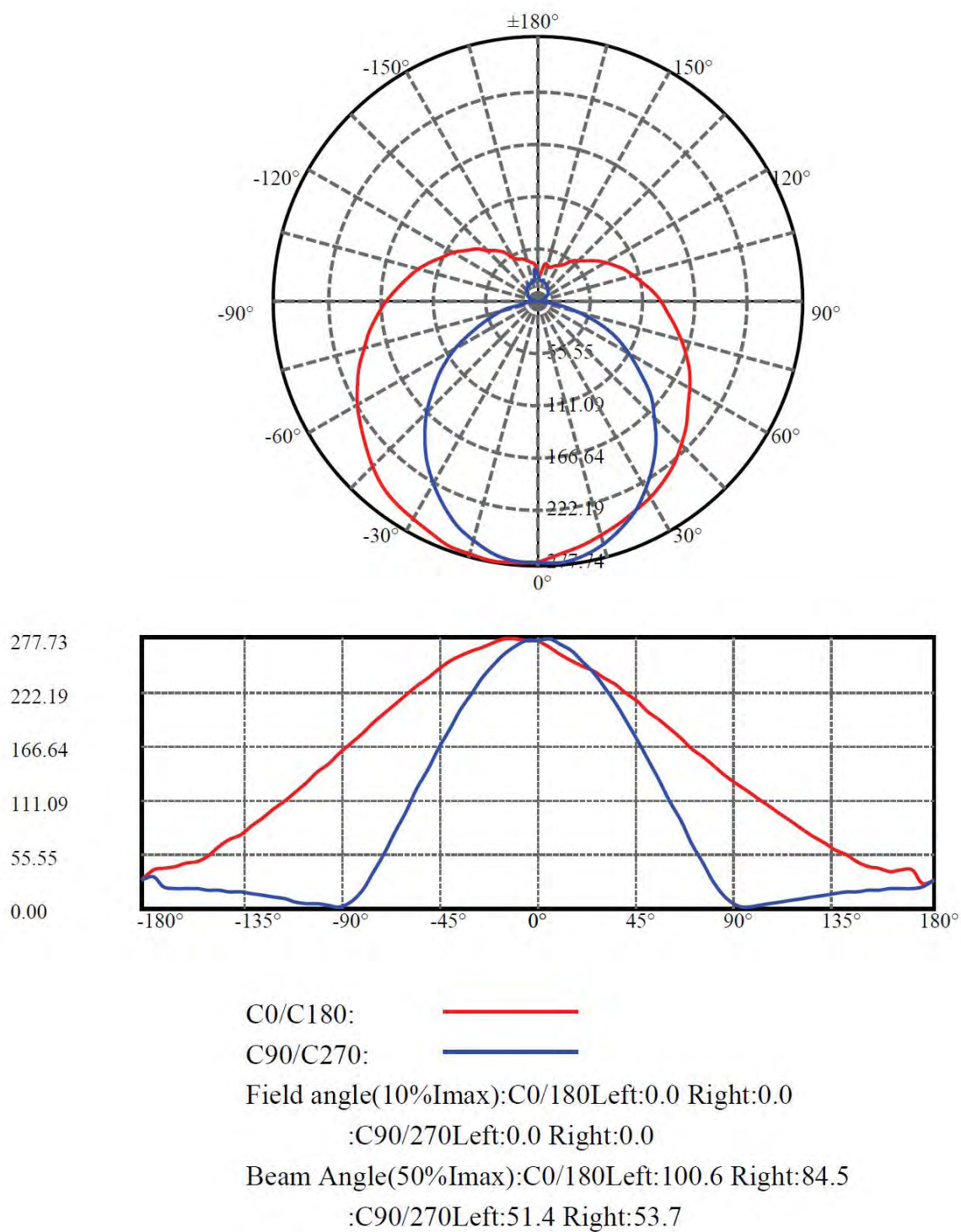
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	274.561	0.000	0	0.00%	0.00%
5.0	273.336	6.550	6.55	0.00%	0.47%
10.0	270.061	19.439	25.989	0.00%	1.86%
15.0	264.733	31.724	57.713	0.00%	4.13%
20.0	257.490	43.038	100.751	0.00%	7.22%
25.0	248.360	53.054	153.805	0.00%	11.02%
30.0	237.981	61.547	215.352	0.00%	15.43%
35.0	226.311	68.370	283.722	0.00%	20.33%
40.0	213.532	73.385	357.107	0.00%	25.58%
45.0	199.781	76.528	433.635	0.00%	31.07%
50.0	185.642	77.880	511.516	0.00%	36.65%
55.0	171.322	77.616	589.132	0.00%	42.21%
60.0	157.239	75.946	665.078	0.00%	47.65%
65.0	143.404	73.087	738.164	0.00%	52.88%
70.0	130.098	69.253	807.417	0.00%	57.84%
75.0	117.749	64.783	872.2	0.00%	62.48%
80.0	106.260	59.938	932.138	0.00%	66.78%
85.0	96.380	55.062	987.2	0.00%	70.72%
90.0	87.930	50.465	1037.666	0.00%	74.34%
95.0	81.103	46.283	1083.949	0.00%	77.65%
100.0	75.109	42.447	1126.395	0.00%	80.70%
105.0	69.531	38.701	1165.097	0.00%	83.47%
110.0	64.383	35.003	1200.099	0.00%	85.98%
115.0	59.679	31.413	1231.513	0.00%	88.23%
120.0	55.461	27.991	1259.503	0.00%	90.23%
125.0	51.409	24.703	1284.206	0.00%	92.00%
130.0	48.093	21.635	1305.841	0.00%	93.55%
135.0	45.040	18.819	1324.66	0.00%	94.90%
140.0	42.293	16.170	1340.83	0.00%	96.06%
145.0	39.851	13.705	1354.536	0.00%	97.04%
150.0	37.756	11.428	1365.964	0.00%	97.86%
155.0	36.923	9.451	1375.414	0.00%	98.54%
160.0	36.590	7.710	1383.124	0.00%	99.09%
165.0	35.022	5.902	1389.026	0.00%	99.51%
170.0	31.761	3.962	1392.988	0.00%	99.79%
175.0	29.000	2.174	1395.162	0.00%	99.95%
180.0	29.175	0.695	1395.857	0.00%	100.00%



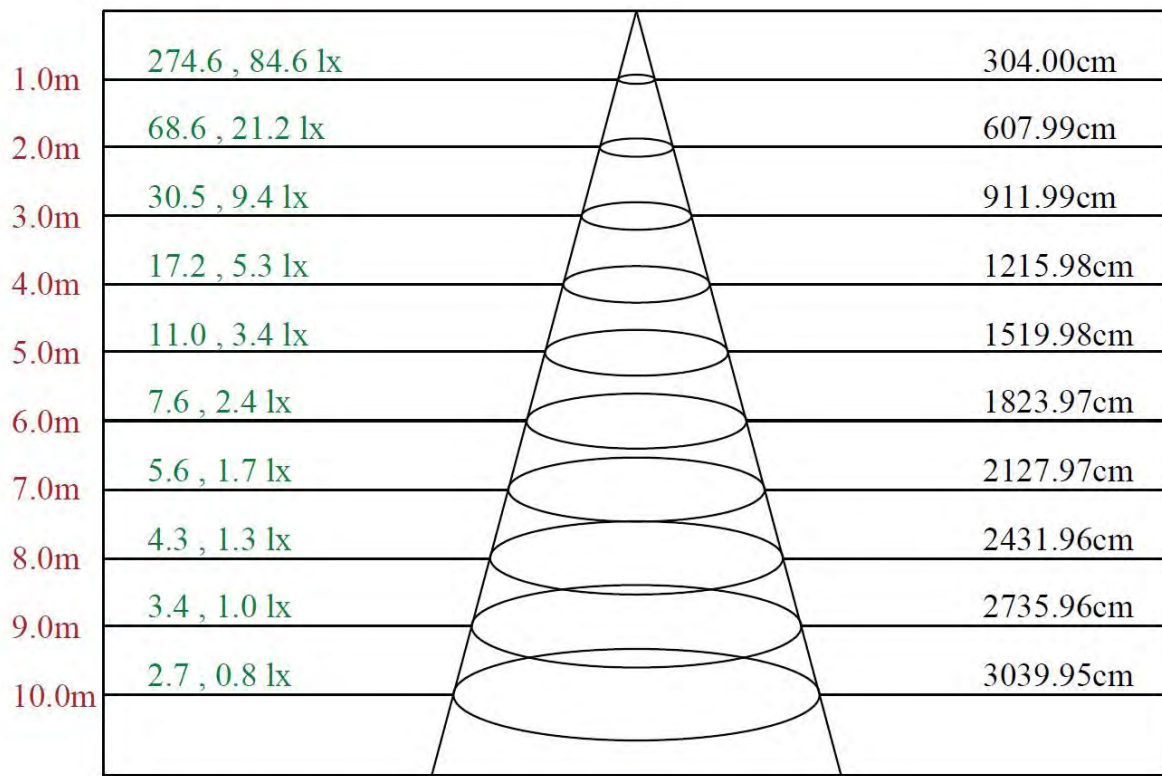
Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





Lux distance Curve



Max , Ave

Beam angle of C247.5 plane 113.32

**Luminous Intensity Distribution Data**

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	274.56	267.08	260.86	254.42	248.87	242.44	236.00	229.78	221.57
22.5	274.56	268.63	263.53	256.64	249.10	239.99	230.67	220.46	210.91
45.0	274.56	267.08	261.53	254.42	245.32	233.78	221.79	208.47	195.15
67.5	274.56	272.85	265.97	257.31	245.54	232.22	216.90	200.92	183.16
90.0	274.56	275.29	271.52	264.41	254.42	241.99	227.56	210.91	192.71
112.5	274.56	277.07	274.40	268.85	260.64	249.76	237.11	221.79	205.36
135.0	274.56	276.18	275.51	272.18	266.86	259.31	249.76	238.44	226.45
157.5	274.56	277.29	277.51	275.74	272.63	267.97	261.75	254.42	246.43
180.0	274.56	275.07	275.96	275.29	272.18	267.08	263.30	259.09	252.87
202.5	274.56	275.29	276.18	275.29	273.29	269.08	263.97	257.31	249.32
225.0	274.56	271.96	271.07	268.19	263.30	256.42	247.32	237.77	227.34
247.5	274.56	277.74	275.96	271.52	264.19	254.20	241.99	227.34	211.13
270.0	274.56	274.18	268.85	260.86	249.54	235.78	220.90	203.58	184.71
292.5	274.56	273.96	267.97	259.75	249.10	236.44	221.79	206.25	188.71
315.0	274.56	271.30	265.97	258.64	249.76	239.99	228.89	216.68	203.58
337.5	274.56	272.41	268.19	262.19	255.09	247.32	238.00	227.78	217.13
360.0	274.56	267.08	260.86	254.42	248.87	242.44	236.00	229.78	221.57
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	212.24	202.47	192.93	184.05	174.72	164.73	155.63	146.31	136.98
22.5	200.48	190.04	179.38	169.39	160.07	151.19	142.75	134.76	126.32
45.0	181.16	168.28	154.74	142.53	130.76	120.55	110.56	101.90	95.02
67.5	165.18	146.75	128.99	110.78	93.91	78.59	65.94	54.84	46.84
90.0	173.17	153.63	131.87	110.56	89.47	67.27	45.96	26.86	12.21
112.5	188.26	170.28	151.86	133.65	116.33	99.24	84.14	71.04	60.39
135.0	213.57	199.59	185.82	173.17	160.29	148.53	137.42	126.32	117.00
157.5	237.11	227.12	216.68	206.03	195.15	185.38	176.05	165.62	155.85
180.0	244.43	236.44	227.78	218.46	209.36	199.81	189.38	178.94	168.95
202.5	239.99	230.00	220.23	210.02	199.37	188.93	178.50	167.62	156.96
225.0	215.79	203.36	190.71	178.72	165.84	153.41	142.31	130.76	120.11
247.5	194.26	175.39	156.74	137.87	120.33	103.46	88.58	75.48	64.16
270.0	164.29	143.42	122.11	100.13	77.70	56.61	35.97	18.43	6.22
292.5	170.28	151.86	134.09	116.33	99.68	83.70	70.60	58.61	49.95
315.0	189.38	176.05	162.73	150.08	137.65	126.10	115.00	105.90	97.46
337.5	206.91	195.59	184.49	174.06	163.84	154.08	145.20	136.76	127.66
360.0	212.24	202.47	192.93	184.05	174.72	164.73	155.63	146.31	136.98
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	128.32	120.11	112.12	104.57	96.80	89.47	81.70	73.71	67.05
22.5	118.11	110.12	102.57	94.58	87.03	79.70	72.38	66.38	60.61
45.0	87.92	80.59	73.71	67.94	62.39	55.95	51.28	47.51	44.18
67.5	40.63	35.74	31.53	27.09	25.31	24.42	23.76	24.42	26.20
90.0	3.33	2.22	3.33	4.66	6.22	8.21	10.21	11.99	13.54
112.5	52.17	45.96	41.52	37.96	33.75	31.30	29.97	28.20	28.42
135.0	107.68	100.13	92.58	86.14	79.70	73.26	67.27	61.05	56.61
157.5	145.42	135.87	126.55	117.89	109.90	101.68	93.47	85.47	77.04
180.0	158.52	148.53	139.20	129.43	119.66	110.78	101.90	93.24	84.14
202.5	146.53	136.76	127.66	118.78	109.67	101.68	93.91	86.14	77.48
225.0	110.78	101.46	93.69	86.36	80.37	74.37	68.38	61.28	57.95
247.5	55.06	48.18	43.07	39.30	35.30	33.30	32.19	29.75	29.75
270.0	2.44	3.33	4.44	5.77	7.55	9.77	11.55	13.32	14.88
292.5	42.85	37.30	33.75	29.75	27.53	25.09	24.42	24.64	25.53
315.0	88.80	80.81	73.93	68.16	62.16	56.39	52.62	49.29	44.62
337.5	118.33	110.56	102.13	94.13	86.81	79.48	72.38	66.16	61.50
360.0	128.32	120.11	112.12	104.57	96.80	89.47	81.70	73.71	67.05



C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	61.05	54.84	48.40	42.85	41.07	37.74	39.07	39.07	25.98
22.5	55.50	49.95	44.18	41.74	39.96	39.30	40.18	31.53	20.43
45.0	41.07	37.30	37.52	36.41	36.85	38.41	32.41	21.09	29.31
67.5	27.09	29.08	30.64	32.64	34.19	31.53	22.87	21.09	33.52
90.0	15.32	16.87	17.76	19.09	19.76	20.65	21.09	21.31	22.87
112.5	28.42	29.53	31.08	33.08	34.41	35.30	29.75	22.20	22.42
135.0	51.95	46.62	41.74	39.96	39.30	39.30	38.63	29.53	20.65
157.5	69.93	64.61	57.72	49.29	45.51	43.74	42.18	41.07	25.98
180.0	75.71	70.16	63.05	53.73	48.18	46.18	43.96	41.29	39.74
202.5	70.16	65.49	59.06	50.84	47.07	44.62	43.51	42.18	41.07
225.0	54.39	48.84	44.18	42.63	41.74	40.85	40.41	39.74	36.63
247.5	30.42	30.86	31.75	33.30	34.41	35.97	36.63	32.86	24.42
270.0	16.43	17.76	18.87	19.76	20.43	21.09	21.31	21.76	33.30
292.5	25.98	27.31	29.97	31.97	33.52	35.08	31.30	27.75	31.30
315.0	41.29	37.96	37.08	35.30	35.52	37.30	37.96	36.85	26.42
337.5	55.95	49.51	44.62	41.52	38.85	38.41	39.07	38.85	29.97
360.0	61.05	54.84	48.40	42.85	41.07	37.74	39.07	39.07	25.98
C/ γ (°)	180.0								
0.0	29.18								
22.5	29.18								
45.0	29.18								
67.5	29.18								
90.0	29.18								
112.5	29.18								
135.0	29.18								
157.5	29.18								
180.0	29.18								
202.5	29.18								
225.0	29.18								
247.5	29.18								
270.0	29.18								
292.5	29.18								
315.0	29.18								
337.5	29.18								
360.0	29.18								



4 Additional Test

Electrical data at 277V

Model Number	Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
RP-T8C-G2-12W-2FT-1L-830-[OCN, Blank]-10V	Power Factor	277	60	0.915
	THD	277	60	11.6%

5 Performance Assessment

Model name	CCT(K)	Total Luminous(lm)	Power(W)	Luminous Efficacy(lm/W)
RP-T8C-G2-6W-2FT-1L-830-[OCN, Blank]-10V	3000	742.11	5.79	128.17
RP-T8C-G2-6W-2FT-1L-835-[OCN, Blank]-10V	3500	746.02 ^{*1}	5.79 ^{*2}	128.84 ^{*3}
RP-T8C-G2-6W-2FT-1L-840-[OCN, Blank]-10V	4000	749.93 ^{*1}	5.79 ^{*2}	129.52 ^{*3}
RP-T8C-G2-6W-2FT-1L-850-[OCN, Blank]-10V	5000	757.74	5.79	130.87

*1: This value is calculated and the calculation formula is as below:

$$746.02 = (757.74 - 742.11) / 4 + 742.11$$

$$749.93 = (757.74 - 742.11) / 4 + 746.02$$

*2: This value is calculated and the calculation formula is as below:

$$5.79 = (5.79 + 5.79) / 2$$

*3: This value is calculated and the calculation formula is as below:

$$128.84 = 746.02 / 5.79$$

$$129.52 = 749.93 / 5.79$$



Model name	CCT(K)	Total Luminous(lm)	Power(W)	Luminous Efficacy(lm/W)
RP-T8C-G2-8W-2FT-1L-830-[OCN, Blank]-10V	3000	966.75	7.93	121.91
RP-T8C-G2-8W-2FT-1L-835-[OCN, Blank]-10V	3500	972.66 ^{*1}	7.94 ^{*2}	122.50 ^{*3}
RP-T8C-G2-8W-2FT-1L-840-[OCN, Blank]-10V	4000	978.58 ^{*1}	7.94 ^{*2}	123.25 ^{*3}
RP-T8C-G2-8W-2FT-1L-850-[OCN, Blank]-10V	5000	990.40	7.95	124.58

*1: This value is calculated and the calculation formula is as below:

$$972.66 = (990.40 - 966.75) / 4 + 966.75$$

$$978.58 = (990.40 - 966.75) / 4 + 972.66$$

*2: This value is calculated and the calculation formula is as below:

$$7.94 = (7.93 + 7.95) / 2$$

*3: This value is calculated and the calculation formula is as below:

$$122.50 = 972.66 / 7.94$$

$$123.25 = 978.58 / 7.94$$

Model name	CCT(K)	Total Luminous(lm)	Power(W)	Luminous Efficacy(lm/W)
RP-T8C-G2-10W-2FT-1L-830-[OCN, Blank]-10V	3000	1173.65	9.85	119.15
RP-T8C-G2-10W-2FT-1L-835-[OCN, Blank]-10V	3500	1180.02 ^{*1}	9.85 ^{*2}	119.86 ^{*3}
RP-T8C-G2-10W-2FT-1L-840-[OCN, Blank]-10V	4000	1186.39 ^{*1}	9.85 ^{*2}	120.51 ^{*3}
RP-T8C-G2-10W-2FT-1L-850-[OCN, Blank]-10V	5000	1199.13	9.84	121.86

*1: This value is calculated and the calculation formula is as below:

$$1180.02 = (1199.13 - 1173.65) / 4 + 1173.65$$

$$1186.39 = (1199.13 - 1173.65) / 4 + 1180.02$$

*2: This value is calculated and the calculation formula is as below:

$$9.85 = (9.85 + 9.84) / 2$$

*3: This value is calculated and the calculation formula is as below:

$$119.86 = 1180.02 / 9.85$$

$$120.51 = 1186.39 / 9.85$$



Model name	CCT(K)	Total Luminous(lm)	Power(W)	Luminous Efficacy(lm/W)
RP-T8C-G2-12W-2FT-1L -830-[OCN, Blank]-10V	3000	1402.96	12.01	116.82
RP-T8C-G2-12W-2FT-1L -835-[OCN, Blank]-10V	3500	1411.71 ^{*1}	12.02 ^{*2}	117.45 ^{*3}
RP-T8C-G2-12W-2FT-1L -840-[OCN, Blank]-10V	4000	1420.46 ^{*1}	12.02 ^{*2}	118.17 ^{*3}
RP-T8C-G2-12W-2FT-1L -850-[OCN, Blank]-10V	5000	1437.96	12.03	119.53

*1: This value is calculated and the calculation formula is as below:

$$1411.71 = (1437.96 - 1402.96) / 4 + 1402.96$$

$$1420.46 = (1437.96 - 1402.96) / 4 + 1411.71$$

*2: This value is calculated and the calculation formula is as below:

$$12.02 = (12.01 + 12.03) / 2$$

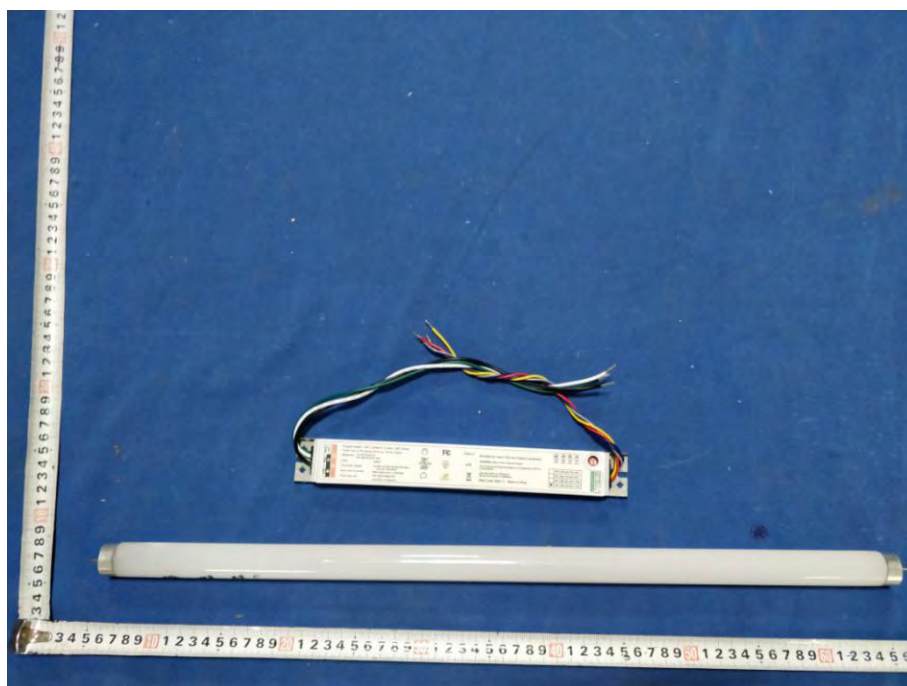
*3: This value is calculated and the calculation formula is as below:

$$117.45 = 1411.71 / 12.02$$

$$118.17 = 1420.46 / 12.02$$



Photo Document



****End of test report****