

**LM-79-08 Test Report**  
For  
**RAB LIGHTING INC**

**(Brand Name: N/A)**

170 Ludlow Ave, PO BOX 970, Northvale, NJ 07647-2305 USA

**Model name(s):**  
**LCBR6R119TW120WB-SS-NS**

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

**Type of  
Luminaire:** Downlights

**Report Date:** 2022-03-22

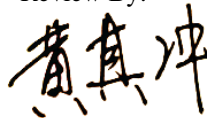
**Prepared By:**

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

<b>1.1 Rated Values:</b>	
Rated Voltage / Frequency	120V AC, 60 Hz
Nominal Power	11.5W
Rated Initial Lamp Lumen	900 lm
Declared CCT	2700K/3000K/3500K/4000K/5000K/5700K /6500K

### 1.2 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-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2015 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> <li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> </ol>
Reference Work Instruction	QD25

### 1.3 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 25°C ±1°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°C ±1°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.

**2.1.1 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2022-03-22	<b>Test Ambient:</b>	25.1 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	LCBR6R119TW120WB-SS-NS	11.5W 2700K	

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202203210042	120.0	60	0.103	11.4	0.921

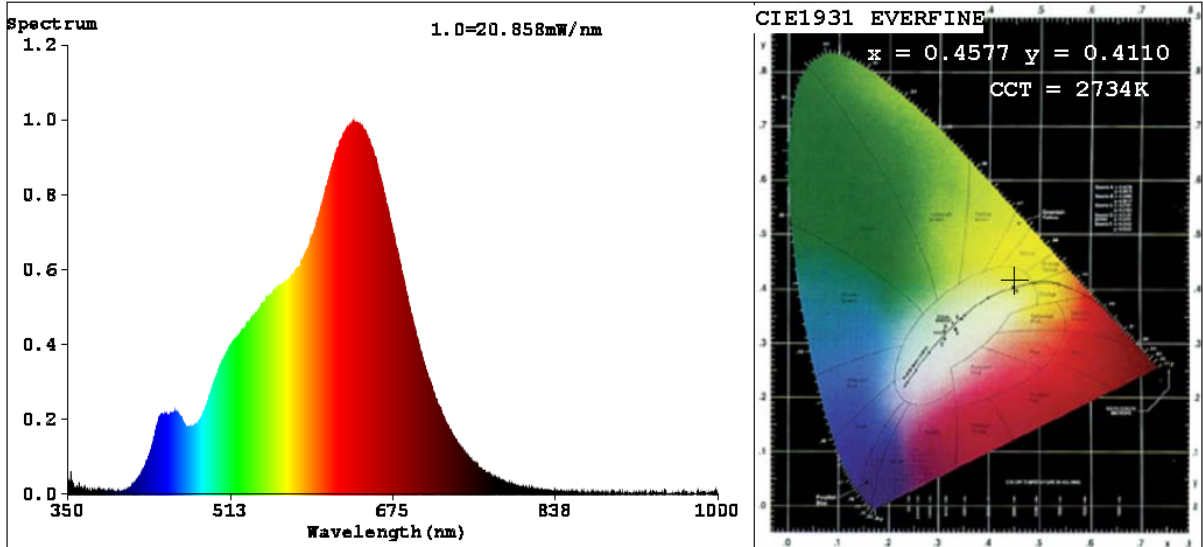
**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	98
Frequency (Hz)	60	R2	99	R10	100
CCT (K)	2734	R3	96	R11	92
Duv	0.0003	R4	95	R12	98
Chromaticity (x, y)	x=0.4577 y=0.4110	R5	97	R13	97
Chromaticity (u', v')	u'=0.2609 v'=0.5272	R6	97	R14	97
Color Rendering Index (CRI)	97.5	R7	99	R15	99
R9	98	R8	99	--	--

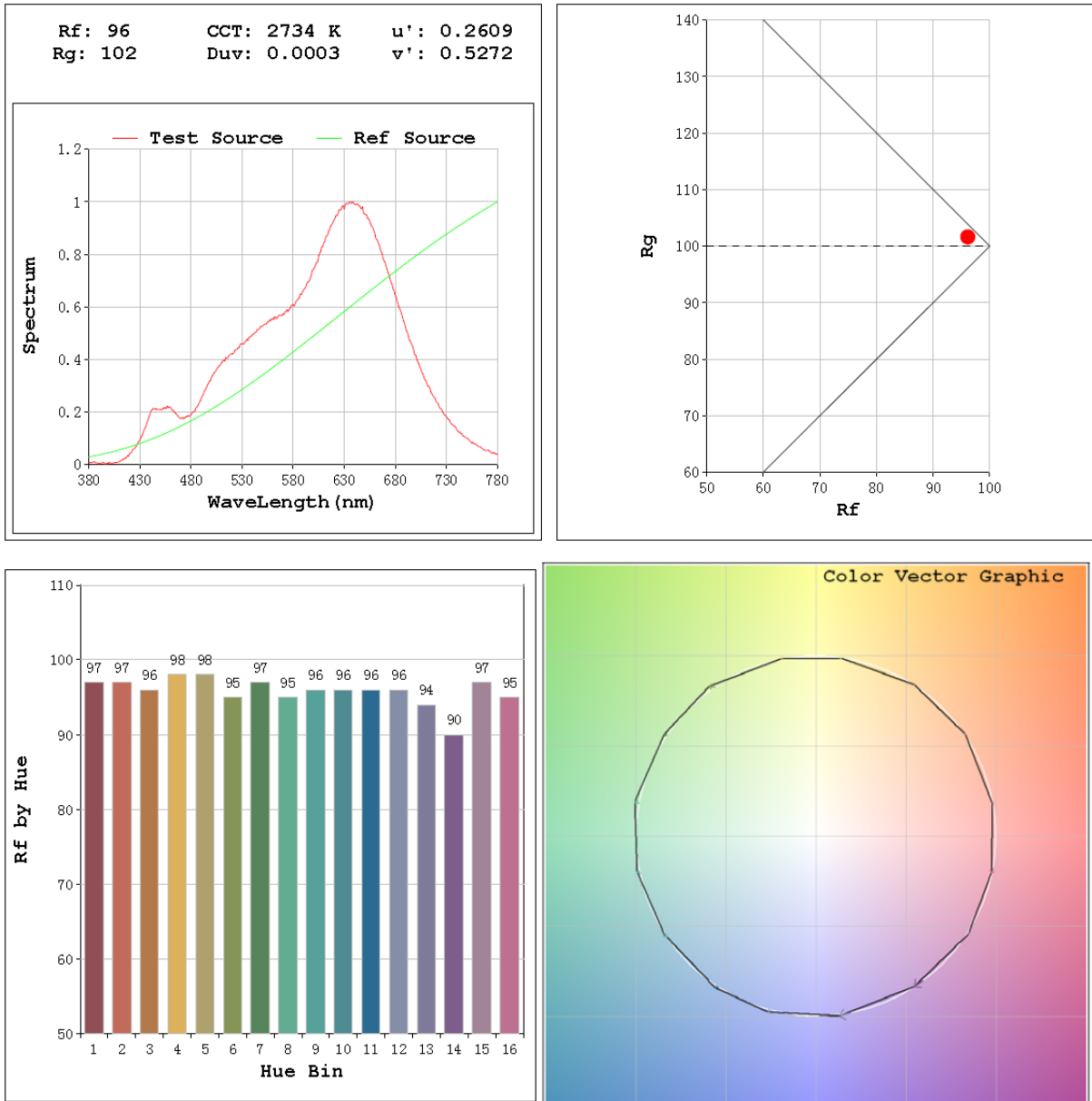
**Photometric Measurement – Goniophotometer Method:**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	862.9
Luminous Efficacy (lm/W)	75.69
Beam Angle (°)	95.0
Center Beam Candle Power (cd)	393.4

# Spectral Power Distribution & Chromaticity Diagram



## TM30

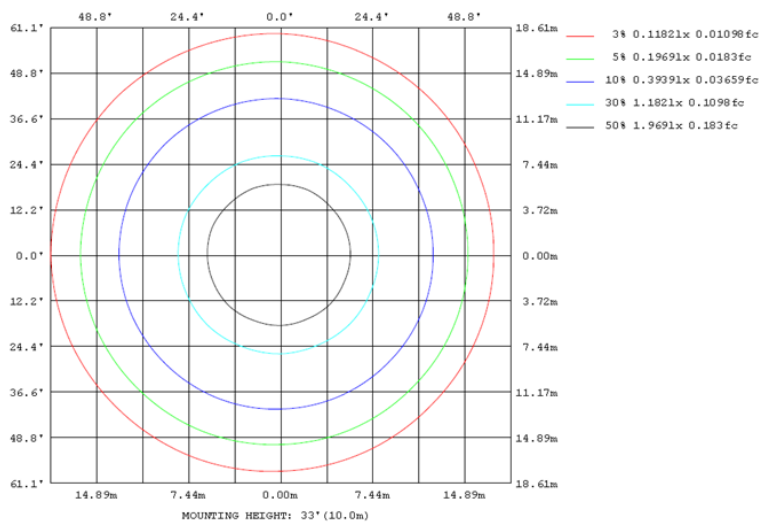
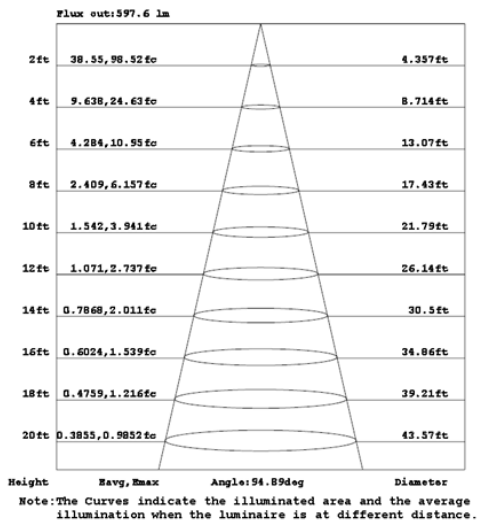
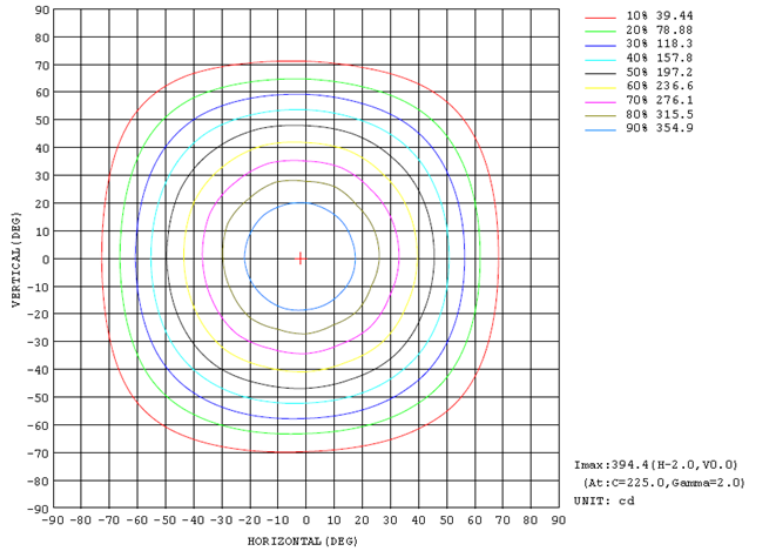
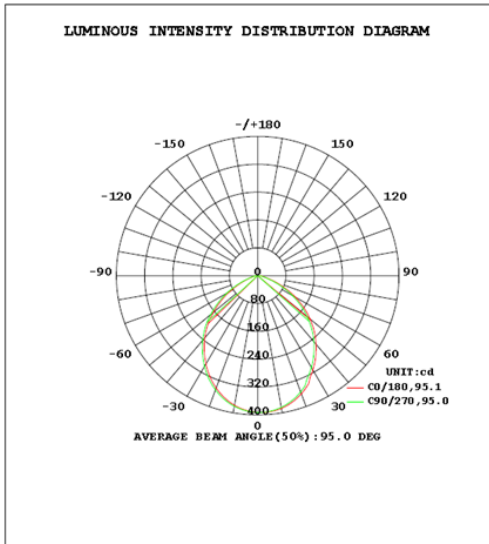


# Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	292.5	33.9%
0-40	464.2	53.8%
0-60	756.0	87.6%
60-90	106.9	12.4%
70-100	34.8	4.0%
90-120	0.0	0.0%
0-90	862.9	100.0%
90-180	0.0	0.0%
0-180	862.9	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	37.0	4.3%	90-100	0.0	0.0%
10-20	104.2	12.1%	100-110	0.0	0.0%
20-30	151.3	17.5%	110-120	0.0	0.0%
30-40	171.7	19.9%	120-130	0.0	0.0%
40-50	164.1	19.0%	130-140	0.0	0.0%
50-60	127.7	14.8%	140-150	0.0	0.0%
60-70	72.1	8.4%	150-160	0.0	0.0%
70-80	25.6	3.0%	160-170	0.0	0.0%
80-90	9.3	1.1%	170-180	0.0	0.0%

## Photometric Data





## 2.1.2 Electrical, Photometric and Chromaticity Measurements

Test date	2022-03-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LCBR6R119TW120WB-SS-NS	11.5W 3000K	

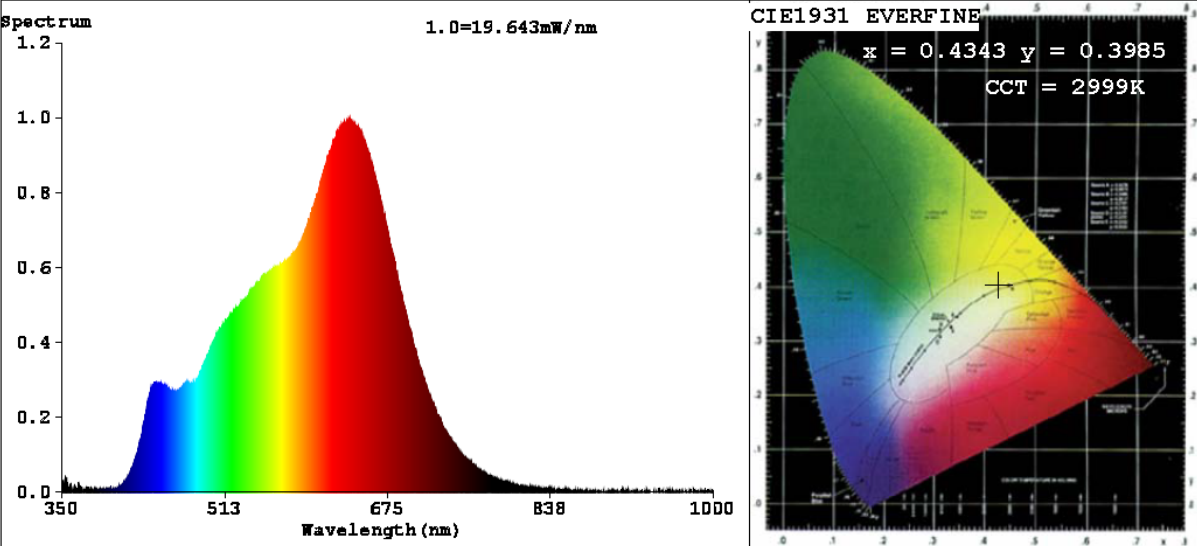
### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202203210042	120.0	60	0.102	11.26	0.917

### Chromaticity Measurement - Sphere-Spectroradiometer Method:

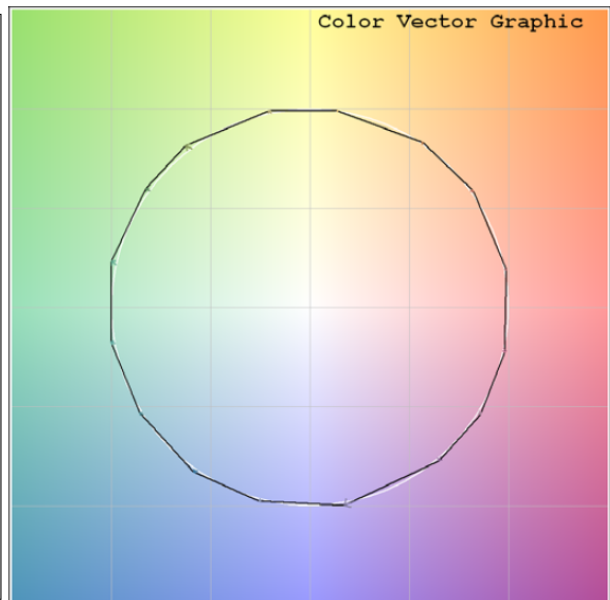
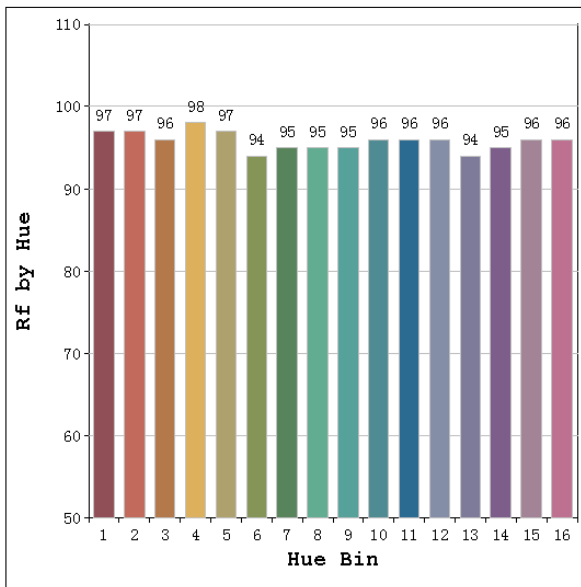
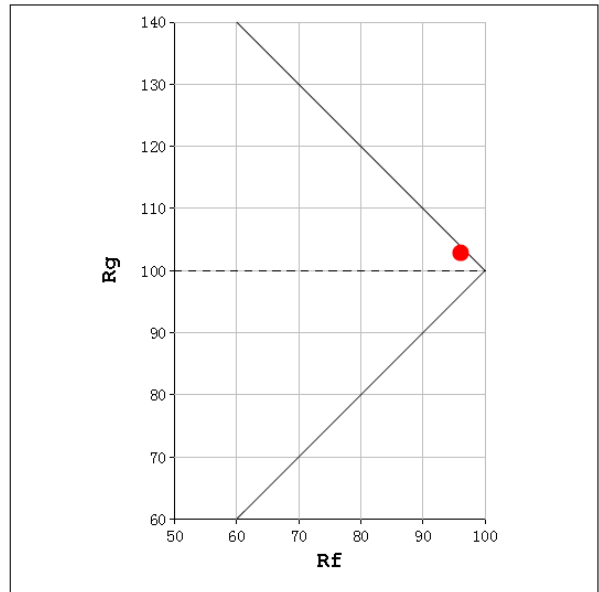
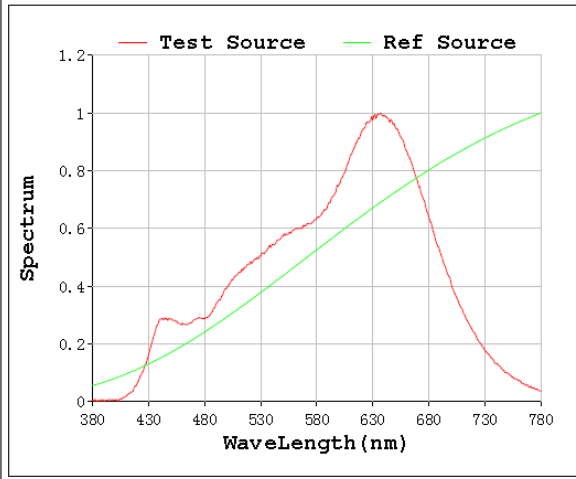
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	95	R9	93
Frequency (Hz)	60	R2	97	R10	96
CCT (K)	2999	R3	98	R11	91
Duv	-0.0019	R4	94	R12	94
Chromaticity (x, y)	x=0.4343 y=0.3985	R5	95	R13	95
Chromaticity (u', v')	u'=0.2513 v'=0.5188	R6	95	R14	98
Color Rendering Index (CRI)	96.2	R7	99	R15	96
R9	93	R8	97	--	--
Total Luminous (lm)	871.5				
Luminous Efficacy (lm/W)	77.36				

## Spectral Power Distribution & Chromaticity Diagram



# TM30

Rf: 96 CCT: 2999 K u': 0.2513  
 Rg: 103 Duv: -0.0019 v': 0.5188





### 2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2022-03-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LCBR6R119TW120WB-SS-NS		11.5W 3500K

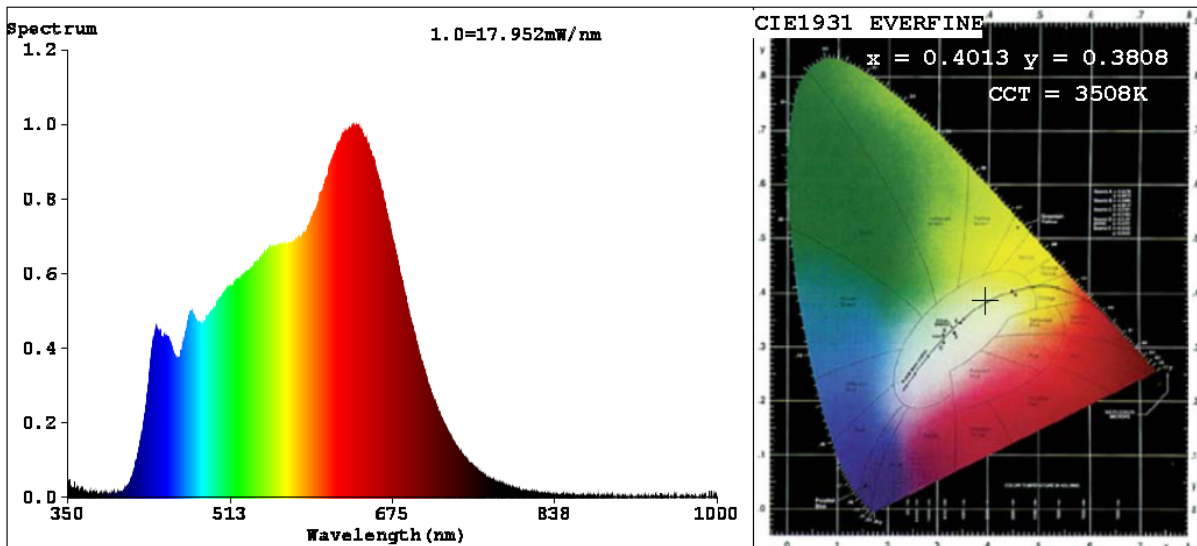
#### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202203210042	120.0	60	0.102	11.20	0.916

#### Chromaticity Measurement - Sphere-Spectroradiometer Method:

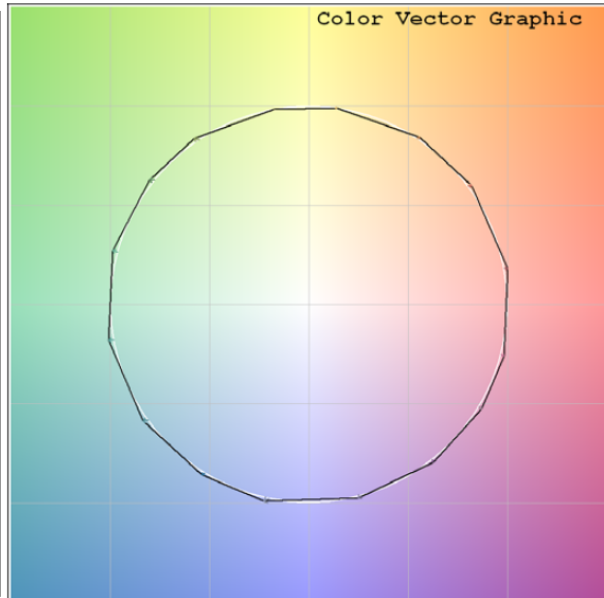
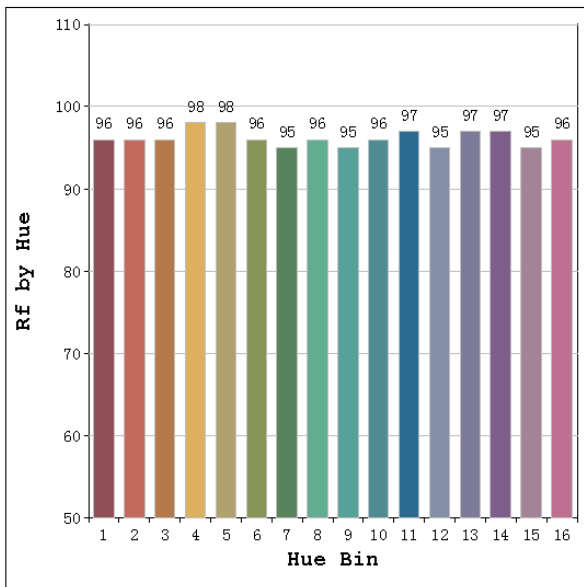
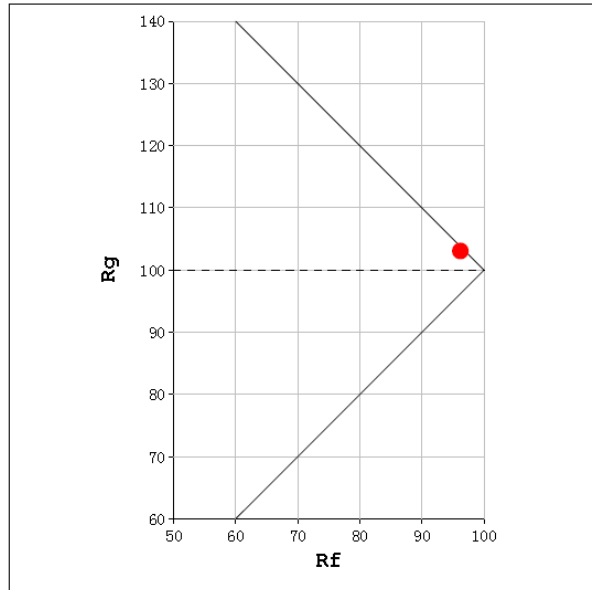
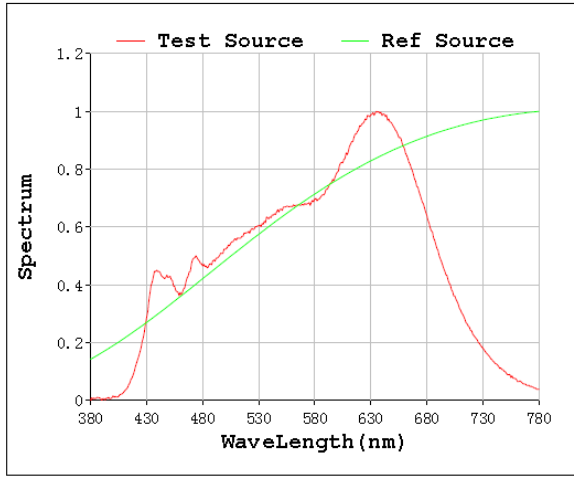
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	93	R9	84
Frequency (Hz)	60	R2	96	R10	92
CCT (K)	3508	R3	99	R11	91
Duv	-0.0035	R4	94	R12	90
Chromaticity (x, y)	x= 0.4013 y= 0.3808	R5	93	R13	93
Chromaticity (u', v')	u'=0.2372 v'=0.5065	R6	93	R14	98
Color Rendering Index (CRI)	95.0	R7	99	R15	93
R9	84	R8	93	--	--
Total Luminous (lm)	891.6				
Luminous Efficacy (lm/W)	79.60				

### Spectral Power Distribution & Chromaticity Diagram



# TM30

Rf: 96      CCT: 3508 K      u': 0.2372  
 Rg: 103      Duv: -0.0035      v': 0.5065



## 2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2022-03-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LCBR6R119TW120WB-SS-NS	11.5W 4000K	

### Electrical Measurement:

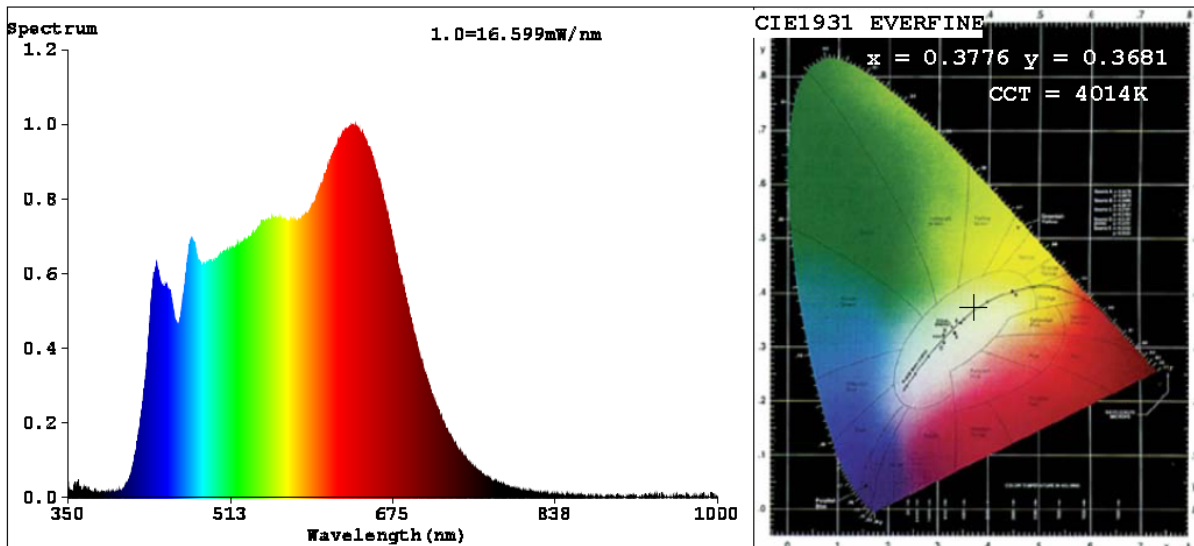
Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202203210042	120.0	60	0.101	11.16	0.917

### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4014
Duv	-0.0033
Chromaticity (x, y)	x=0.3776 y=0.3681
Chromaticity (u', v')	u'=0.2267 v'=0.4973
Color Rendering Index (CRI)	94.7
R9	79
Total Luminous (lm)	906.6
Luminous Efficacy (lm/W)	81.23

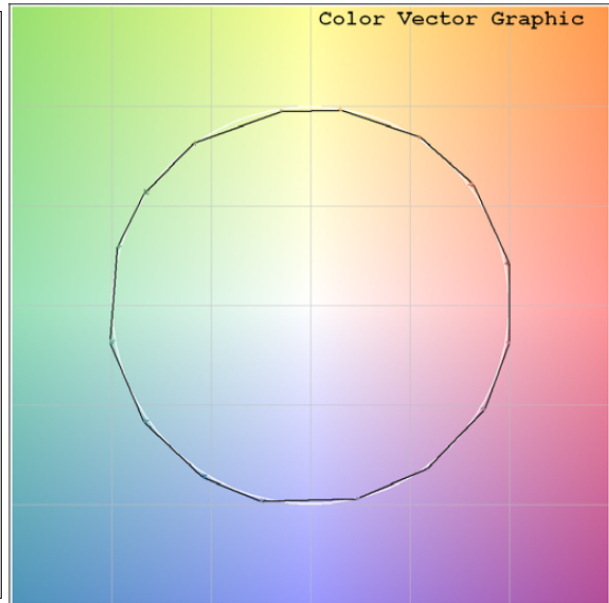
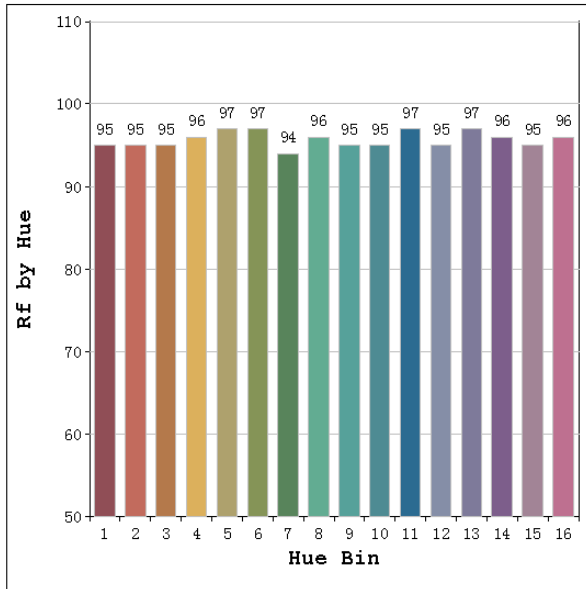
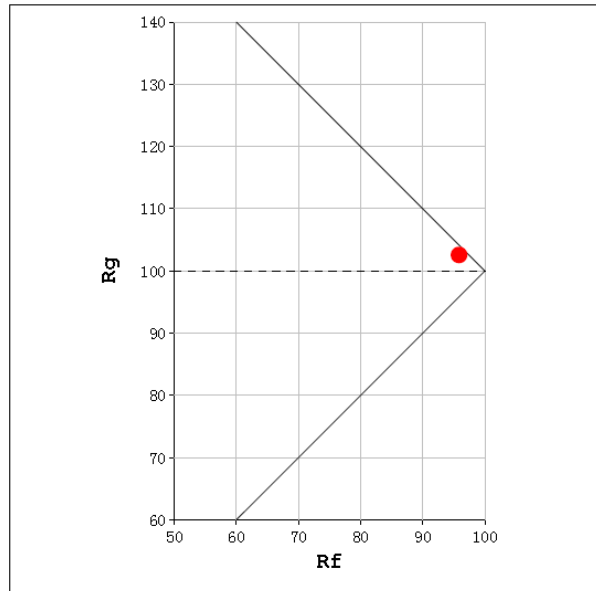
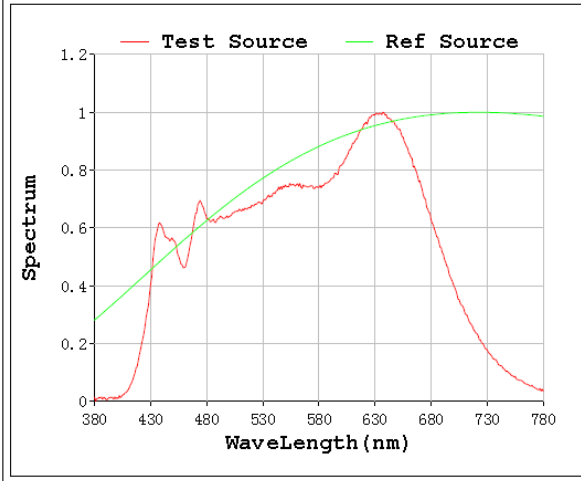
Special Color Rendering Indices			
R1	93	R9	79
R2	95	R10	90
R3	99	R11	92
R4	94	R12	90
R5	93	R13	93
R6	93	R14	99
R7	98	R15	92
R8	92	--	--

## Spectral Power Distribution & Chromaticity Diagram



# TM30

Rf: 96      CCT: 4014 K      u': 0.2267  
 Rg: 103      Duv: -0.0033      v': 0.4973



## 2.1.5 Electrical, Photometric and Chromaticity Measurements

Test date	2022-03-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LCBR6R119TW120WB-SS-NS	11.5W 5000K	

### Electrical Measurement:

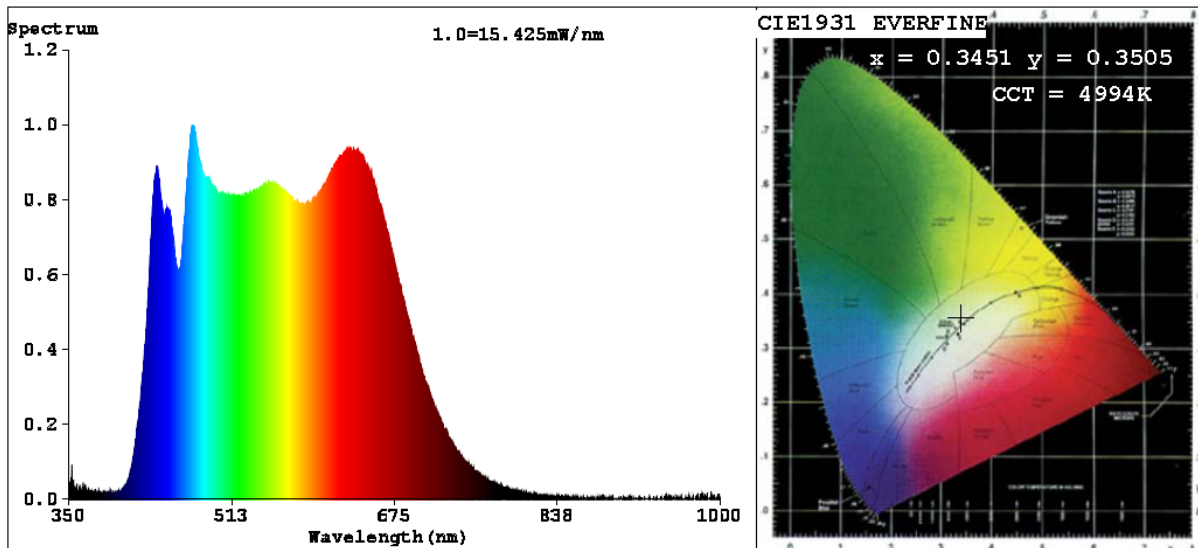
Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202203210042	120.0	60	0.101	11.11	0.916

### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4994
Duv	-0.0006
Chromaticity (x, y)	x=0.3451 y=0.3505
Chromaticity (u', v')	u'=0.2119 v'=0.4841
Color Rendering Index (CRI)	95.3
R9	81
Total Luminous (lm)	927.8
Luminous Efficacy (lm/W)	83.5

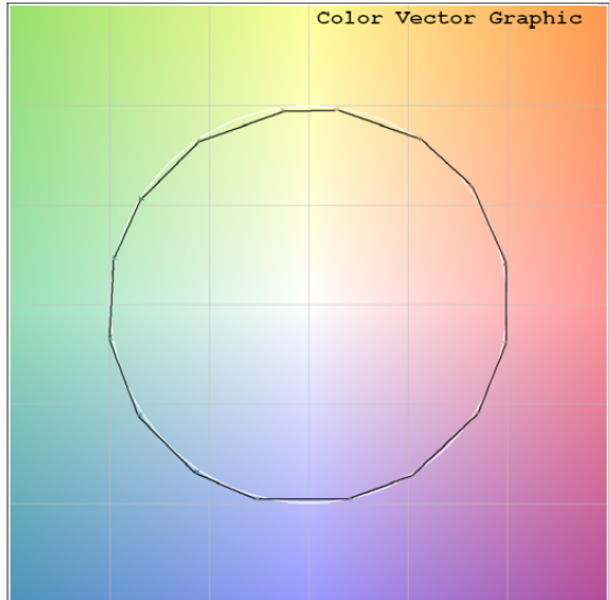
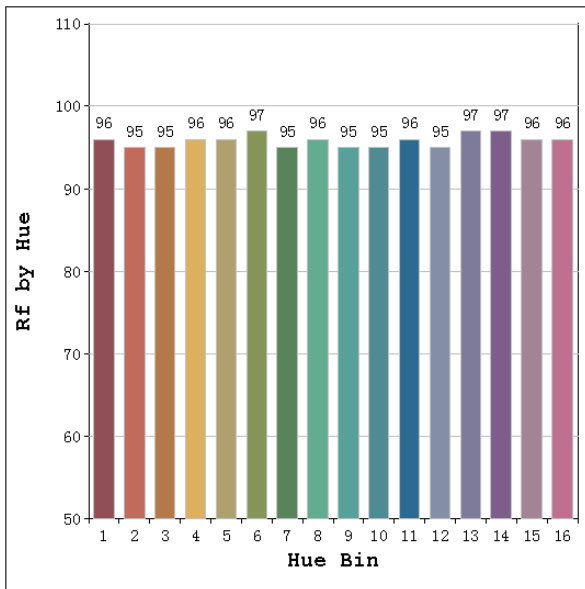
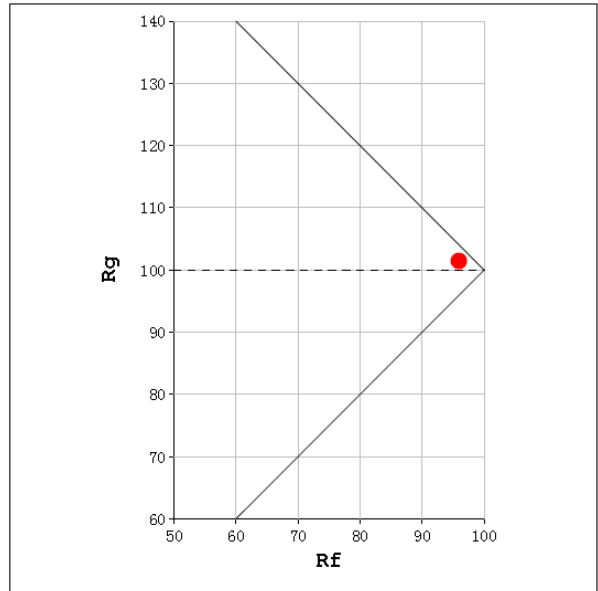
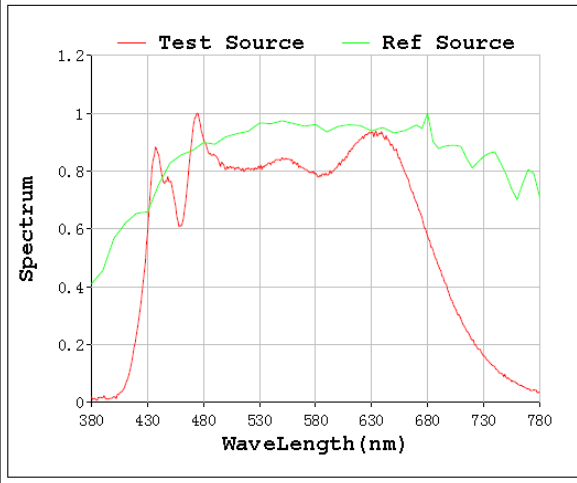
Special Color Rendering Indices			
R1	94	R9	81
R2	95	R10	91
R3	98	R11	96
R4	95	R12	92
R5	95	R13	94
R6	95	R14	99
R7	96	R15	93
R8	93	--	--

## Spectral Power Distribution & Chromaticity Diagram



# TM30

Rf: 96      CCT: 4994 K      u': 0.2119  
 Rg: 101      Duv: -0.0006      v': 0.4841



## 2.1.6 Electrical, Photometric and Chromaticity Measurements

Test date	2022-03-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LCBR6R119TW120WB-SS-NS	11.5W 5700K	

### Electrical Measurement:

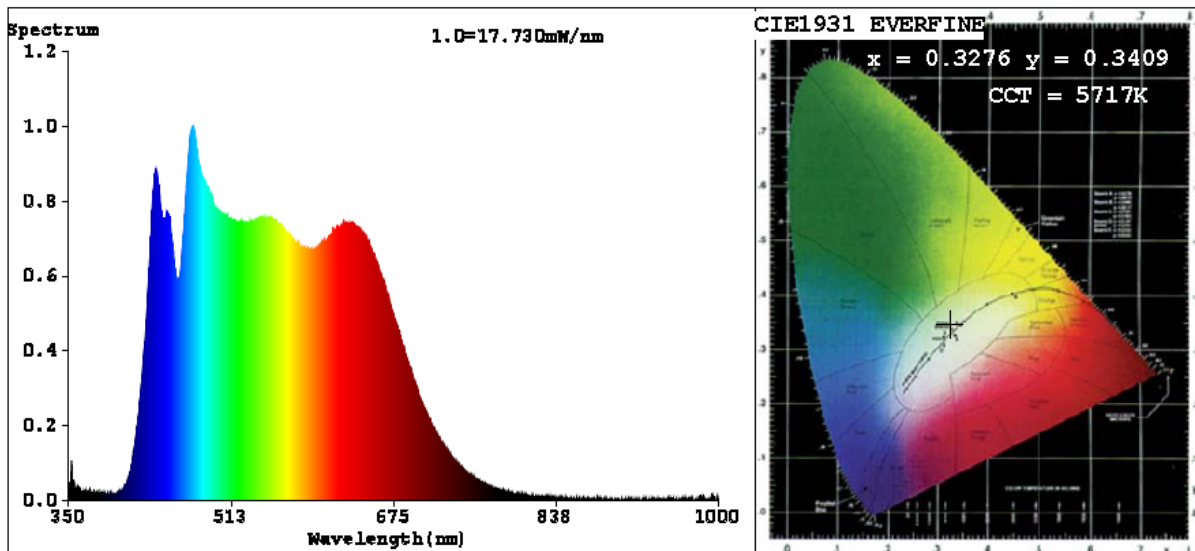
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202203210042	120.0	60	0.101	11.09	0.917

### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	5717
Duv	0.0021
Chromaticity (x, y)	x=0.3276 y=0.3409
Chromaticity (u', v')	u'=0.2036 v'=0.4767
Color Rendering Index (CRI)	96.3
R9	86
Total Luminous (lm)	938.0
Luminous Efficacy (lm/W)	84.54

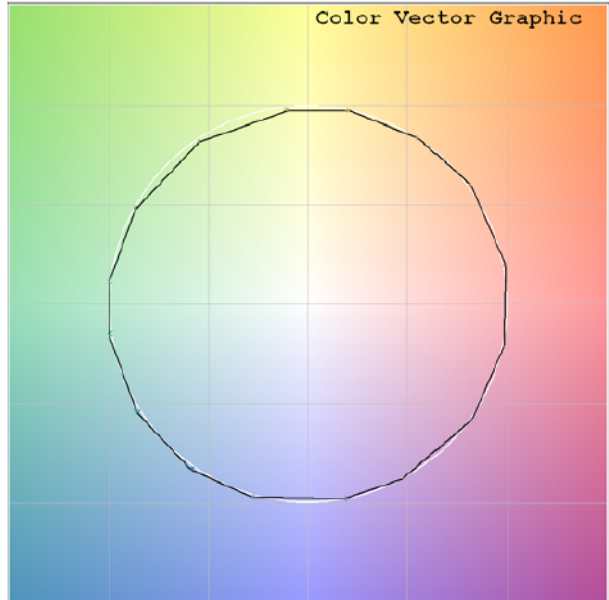
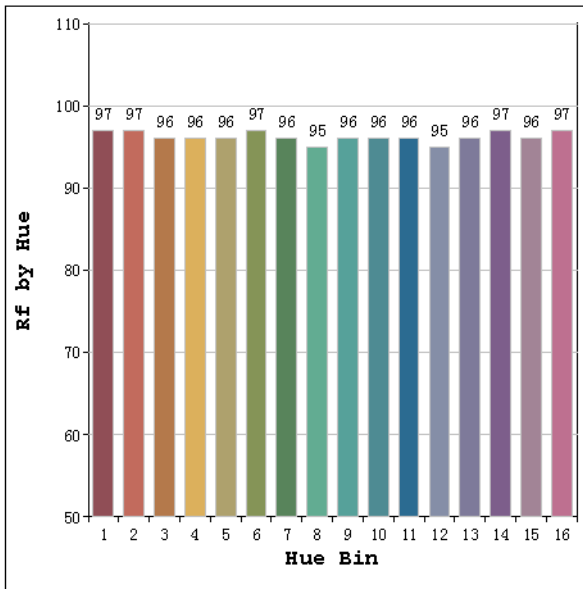
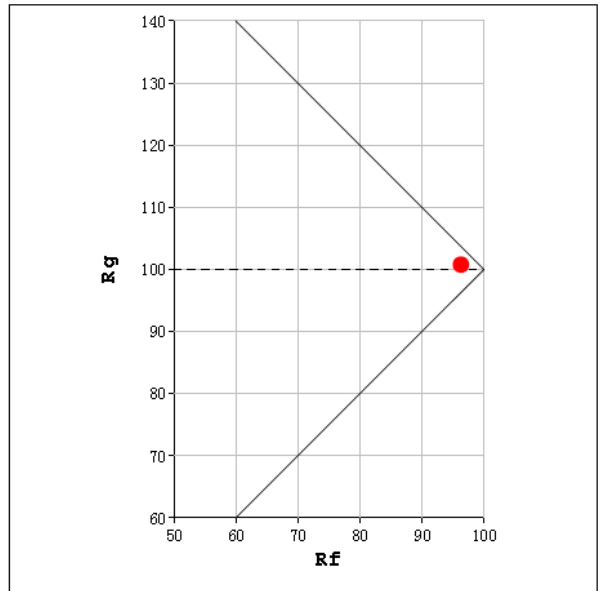
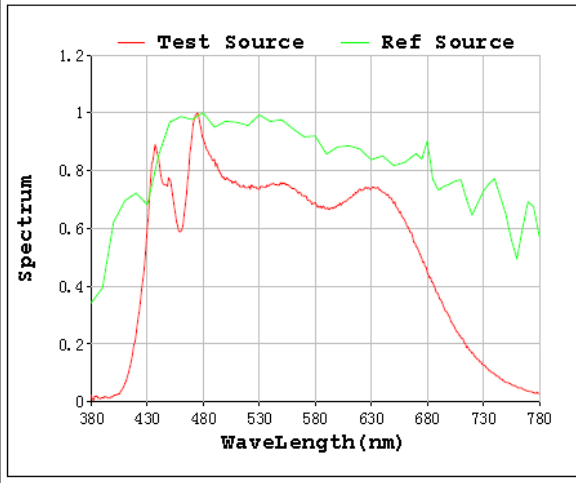
Special Color Rendering Indices			
R1	96	R9	86
R2	96	R10	92
R3	97	R11	97
R4	96	R12	93
R5	96	R13	96
R6	95	R14	99
R7	97	R15	95
R8	96	--	--

## Spectral Power Distribution & Chromaticity Diagram



# TM30

Rf: 96      CCT: 5717 K      u': 0.2036  
 Rg: 101      Duv: 0.0021      v': 0.4767





## 2.1.7 Electrical, Photometric and Chromaticity Measurements

Test date	2022-03-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LCBR6R119TW120WB-SS-NS	11.5W 6500K	

### Electrical Measurement:

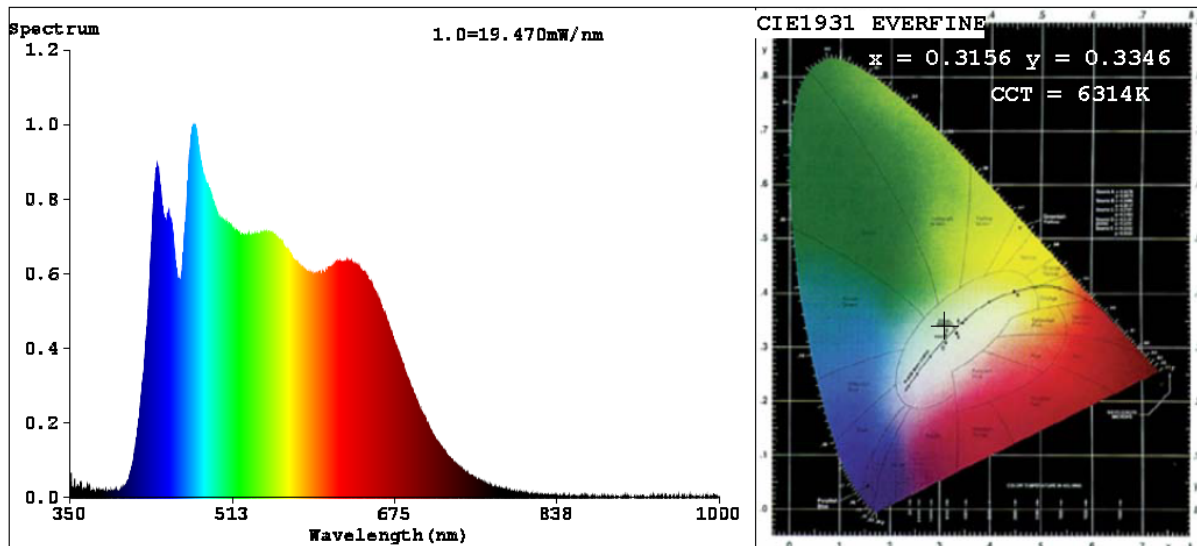
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202203210042	120.0	60	0.101	11.12	0.917

### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	6314
Duv	0.0046
Chromaticity (x, y)	x=0.3156 y=0.3346
Chromaticity (u', v')	u'=0.1978 v'=0.4717
Color Rendering Index (CRI)	97.0
R9	94
Total Luminous (lm)	953.5
Luminous Efficacy (lm/W)	85.71

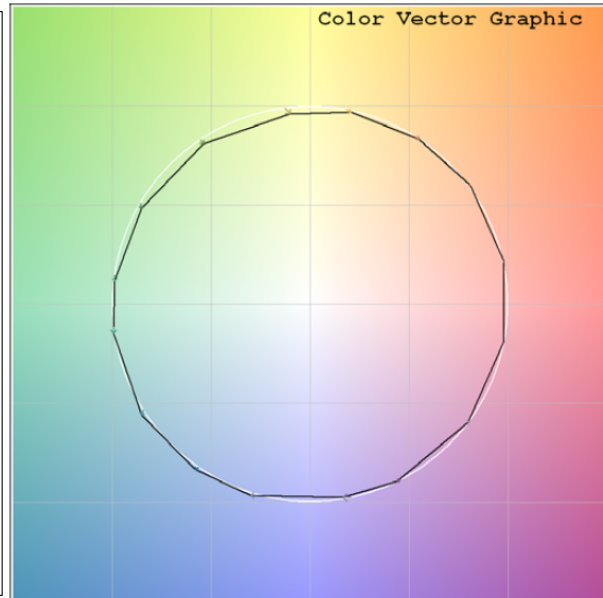
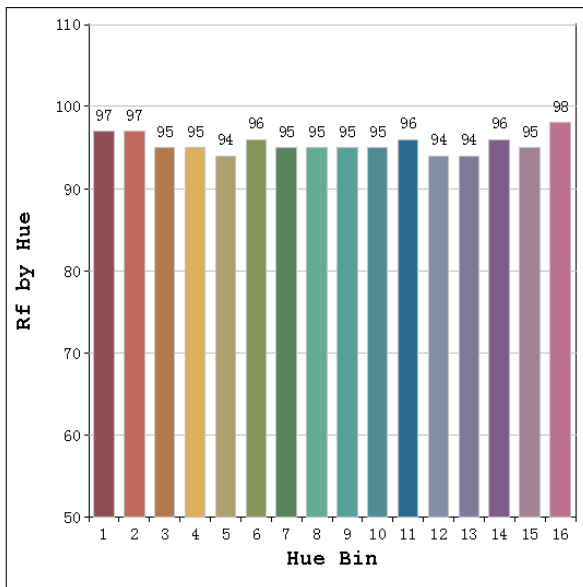
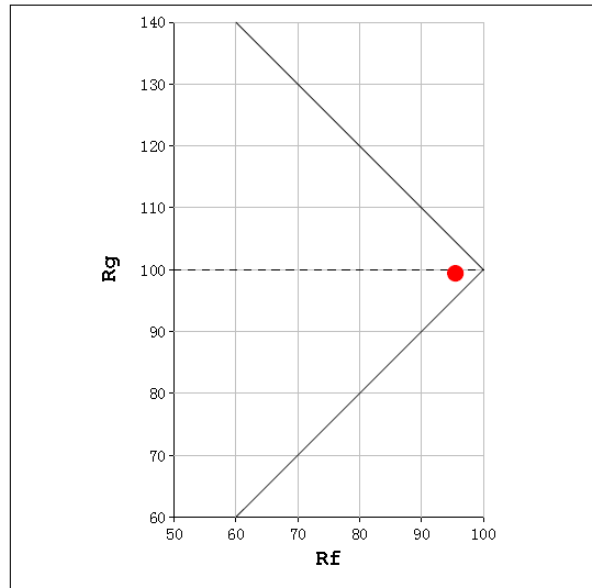
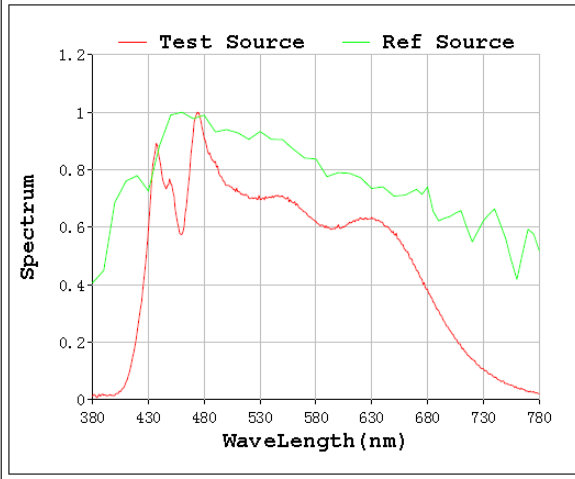
Special Color Rendering Indices			
R1	98	R9	94
R2	97	R10	93
R3	97	R11	97
R4	96	R12	95
R5	98	R13	97
R6	97	R14	98
R7	96	R15	97
R8	97	--	--

## Spectral Power Distribution & Chromaticity Diagram



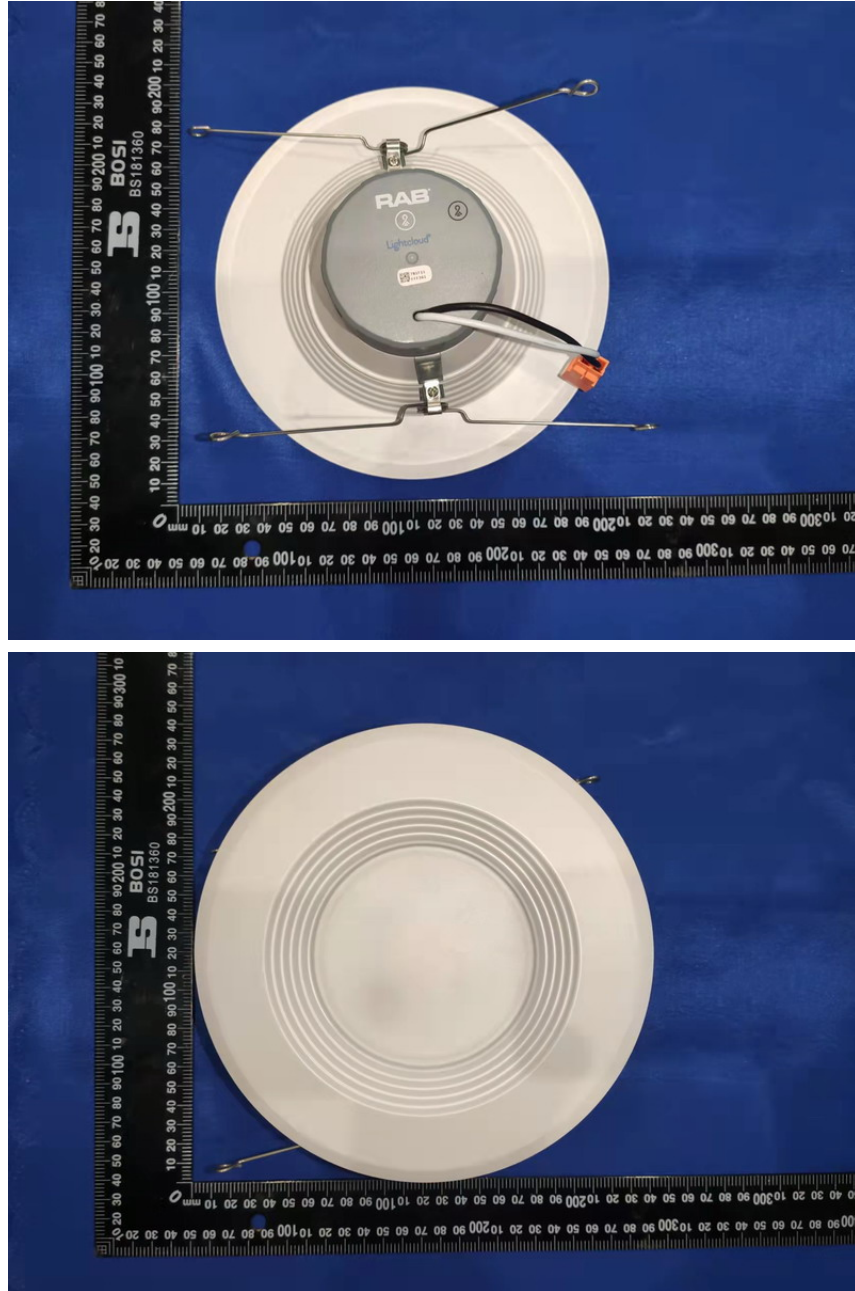
# TM30

Rf: 96      CCT: 6314 K      u': 0.1978  
 Rg: 99      Duv: 0.0046      v': 0.4717



Sample No.	Wattage and CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
LCBR6R119TW120WB-SS-NS	2700K setting	120.0	863.9	11.36	76.04
	3000K setting	120.0	871.5	11.26	77.36
	3500K setting	120.0	891.6	11.20	79.60
	4000K setting	120.0	906.6	11.16	81.23
	5000K setting	120.0	927.8	11.11	83.50
	5700K setting	120.0	938.0	11.09	84.54
	6500K setting	120.0	953.5	11.12	85.71

### 3. Product Photo



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