

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

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

408 W 14th St, New York, NY 10014, USA

**Model name(s):**  
**WFRX-2B**

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

**Type of  
Luminaire:** Downlights

**Report Date:** 2025-10-18

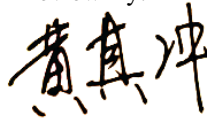
**Prepared By:**

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

<b>1.1 Rated Values:</b>	
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	6.0W/8.0W/10.0W
Rated Initial Lamp Lumen	520lm/700lm/900lm (mode5000K)
Declared CCT	2700K/3000K/3500K/4000K/5000K

### 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

<p><b>1) Photometric and Light Distribution Measurement – Goniophotometer Method:</b> 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.</p>
<p><b>2) Chromaticity Measurement – Sphere-Spectroradiometer Method:</b> 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</p>
<p><b>3) Electrical Measurements:</b> 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.</p>

**2.1.1 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2025-10-17	<b>Test Ambient:</b>	25.1 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	WFRX-2B	5000K	

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202510160003	120.0	60	0.078	9.11	0.965

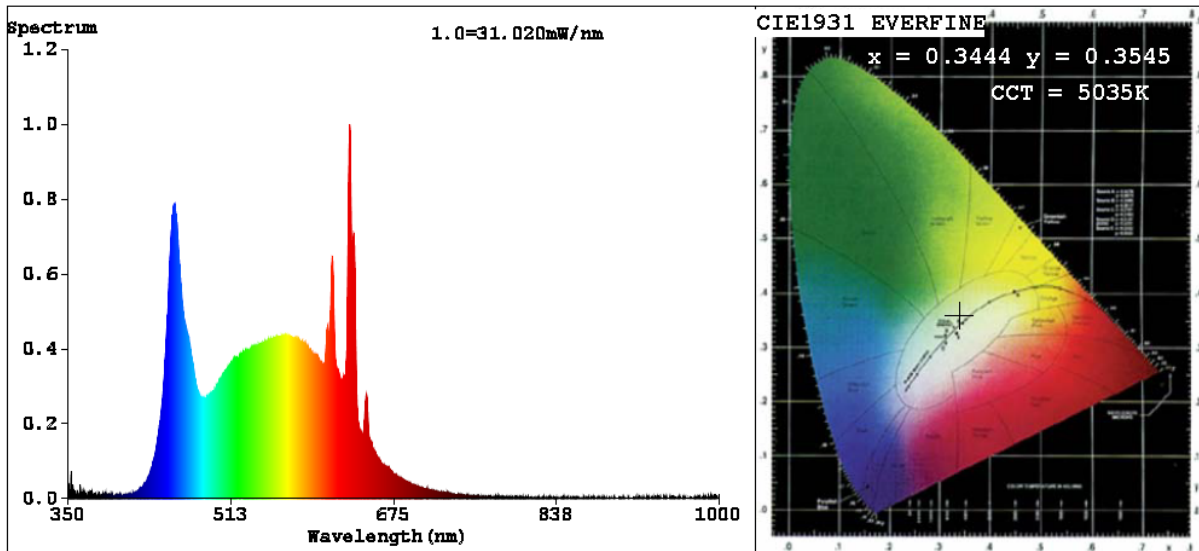
**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	93	R9	62
Frequency (Hz)	60	R2	97	R10	92
CCT (K)	5035	R3	97	R11	90
Duv	0.0017	R4	90	R12	69
Chromaticity (x, y)	x=0.3444 y=0.3545	R5	91	R13	95
Chromaticity (u', v')	u'=0.2099 v'=0.4860	R6	93	R14	99
Color Rendering Index (CRI)	92.1	R7	91	R15	91
R9	62	R8	84	--	--
Rg	97				
Rf	89				
Rcs,h1%	-7				

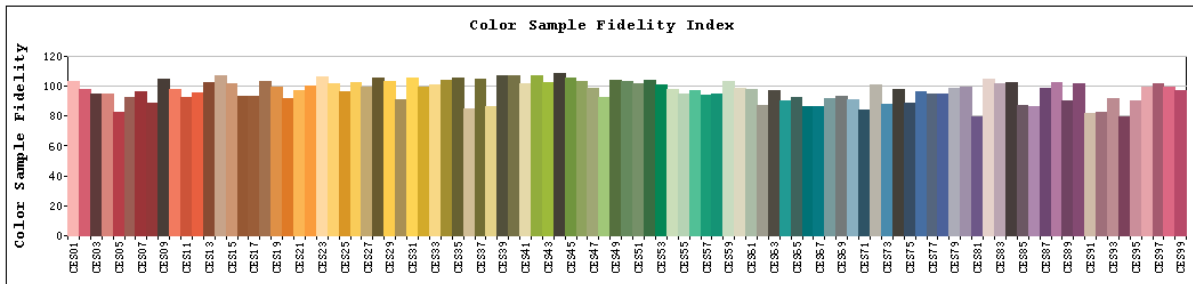
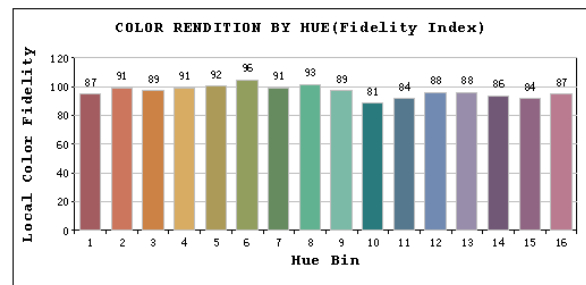
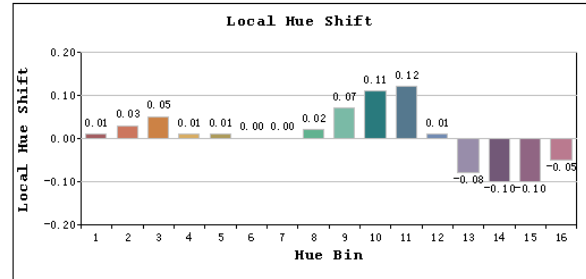
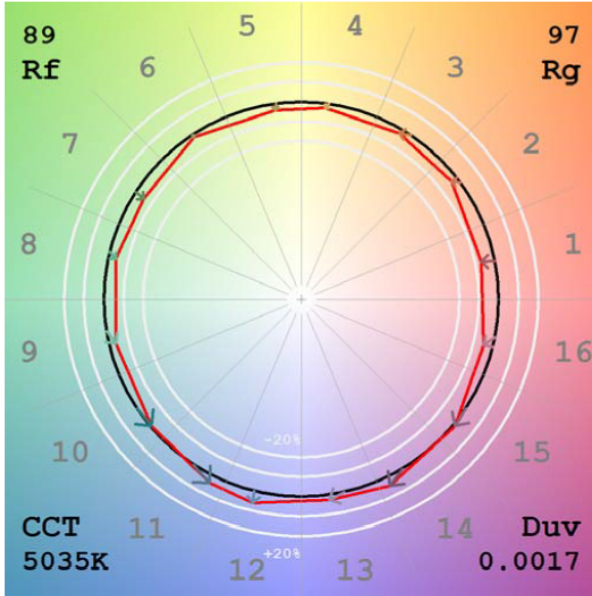
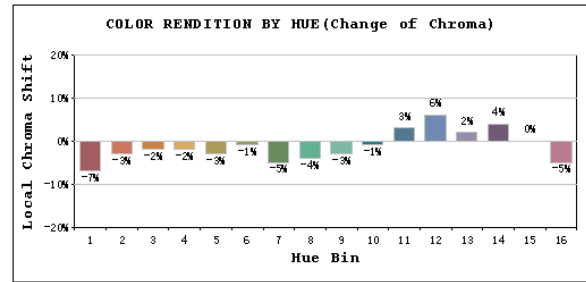
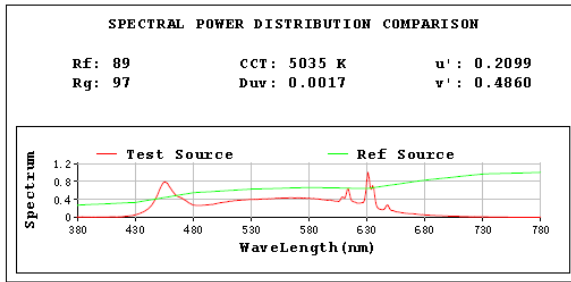
**Photometric Measurement – Goniophotometer Method:**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	910.3
Luminous Efficacy (lm/W)	99.93
Beam Angle (°)	104.4
Center Beam Candle Power (cd)	354.3

# Spectral Power Distribution & Chromaticity Diagram



# TM30

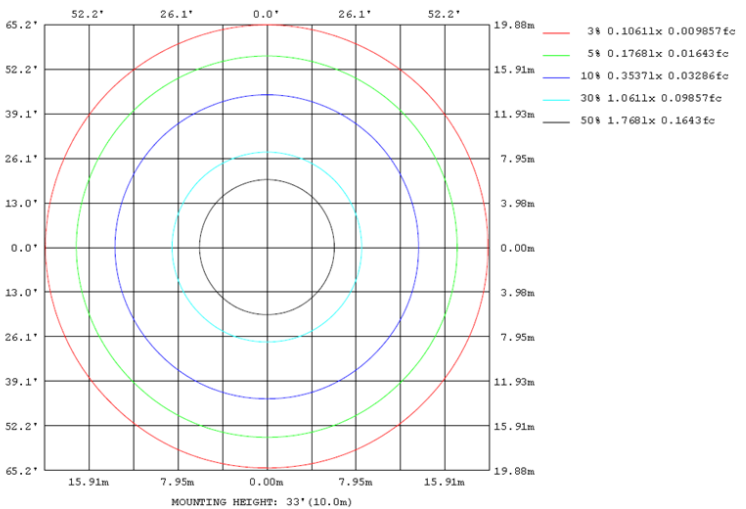
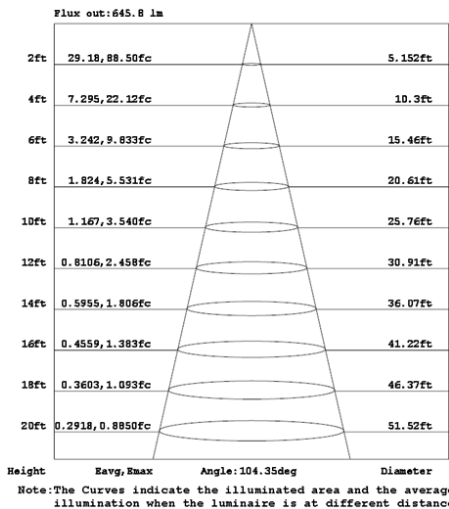
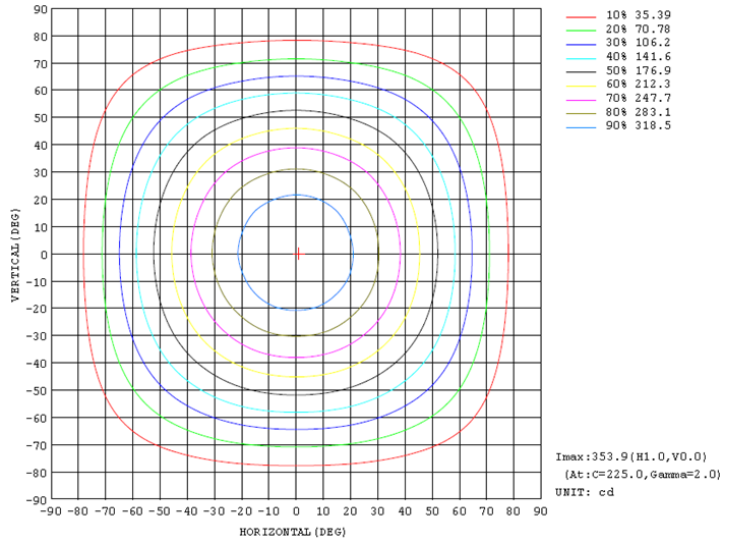
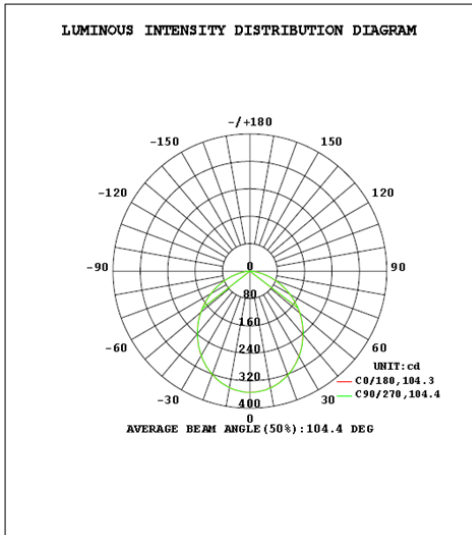


# Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	268.5	29.5%
0-40	433.4	47.6%
0-60	743.4	81.7%
60-90	166.9	18.3%
70-100	63.1	6.9%
90-120	0.0	0.0%
0-90	910.3	100.0%
90-180	0.0	0.0%
0-180	910.3	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	33.4	3.7%	90-100	0.0	0.0%
10-20	94.6	10.4%	100-110	0.0	0.0%
20-30	140.6	15.4%	110-120	0.0	0.0%
30-40	164.9	18.1%	120-130	0.0	0.0%
40-50	165.8	18.2%	130-140	0.0	0.0%
50-60	144.2	15.8%	140-150	0.0	0.0%
60-70	103.8	11.4%	150-160	0.0	0.0%
70-80	53.5	5.9%	160-170	0.0	0.0%
80-90	9.6	1.1%	170-180	0.0	0.0%

## Photometric Data





## 2.1.2 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2025-10-17	<b>Test Ambient:</b>	25.1 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	WFRX-2B	2700K	

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202510160003	120.0	60	0.078	9.13	0.966

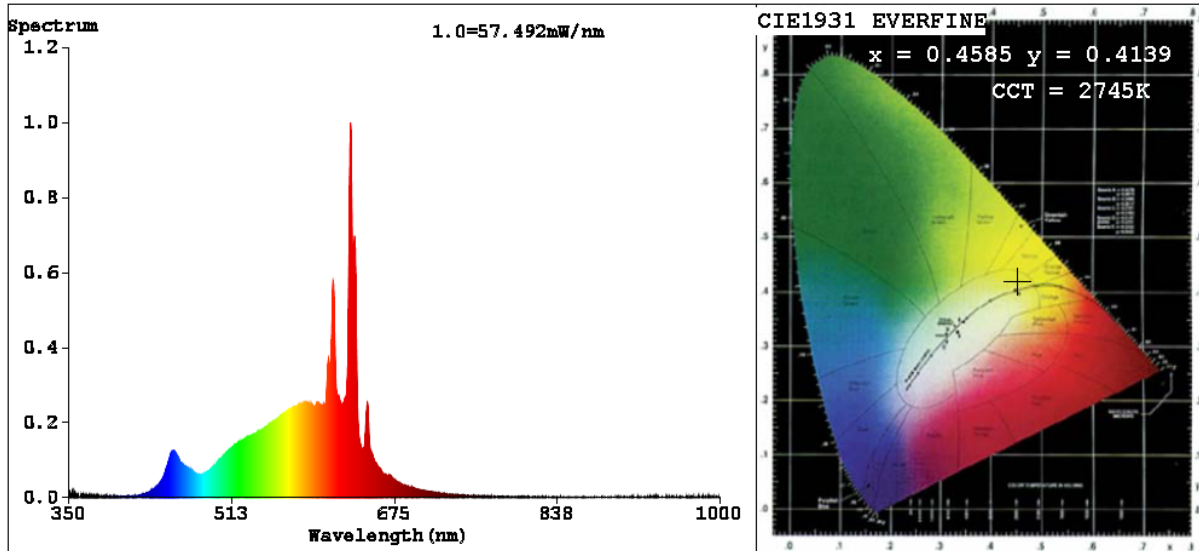
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

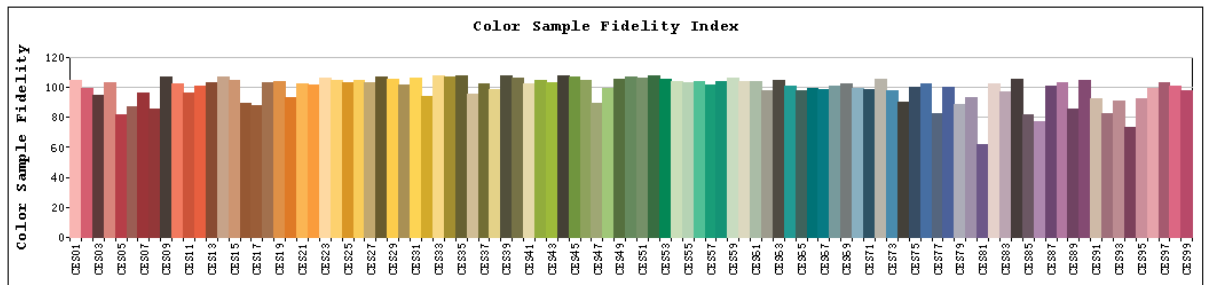
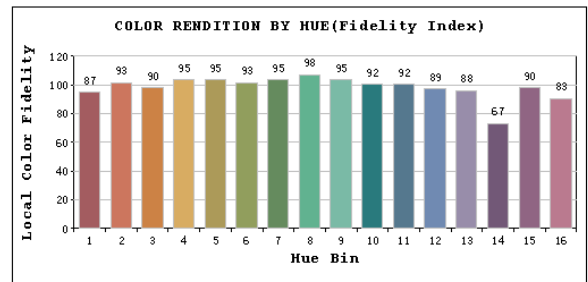
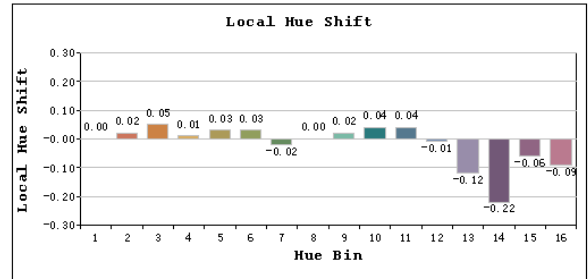
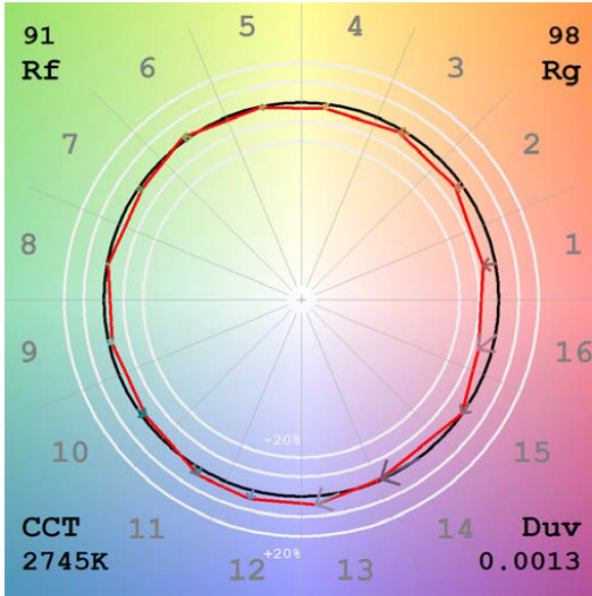
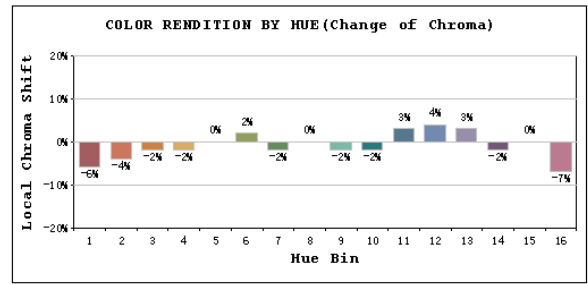
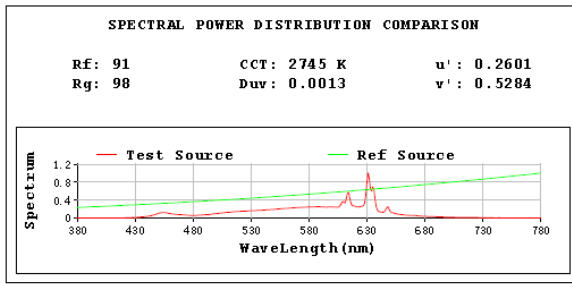
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	94	R9	59
Frequency (Hz)	60	R2	97	R10	89
CCT (K)	2745	R3	97	R11	95
Duv	0.0013	R4	94	R12	82
Chromaticity (x, y)	x=0.4585 y=0.4139	R5	93	R13	95
Chromaticity (u', v')	u'=0.2601 v'=0.5284	R6	97	R14	97
Color Rendering Index (CRI)	93.3	R7	92	R15	90
R9	59	R8	82	--	--
Rg	98				
Rf	91				
Rcs,h1%	-6				

### Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	904.1
Luminous Efficacy (lm/W)	99.03

# Spectral Power Distribution & Chromaticity Diagram





### 2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2025-10-17	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	WFRX-2B	3000K	

#### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202510160003	120.0	60	0.078	9.05	0.965

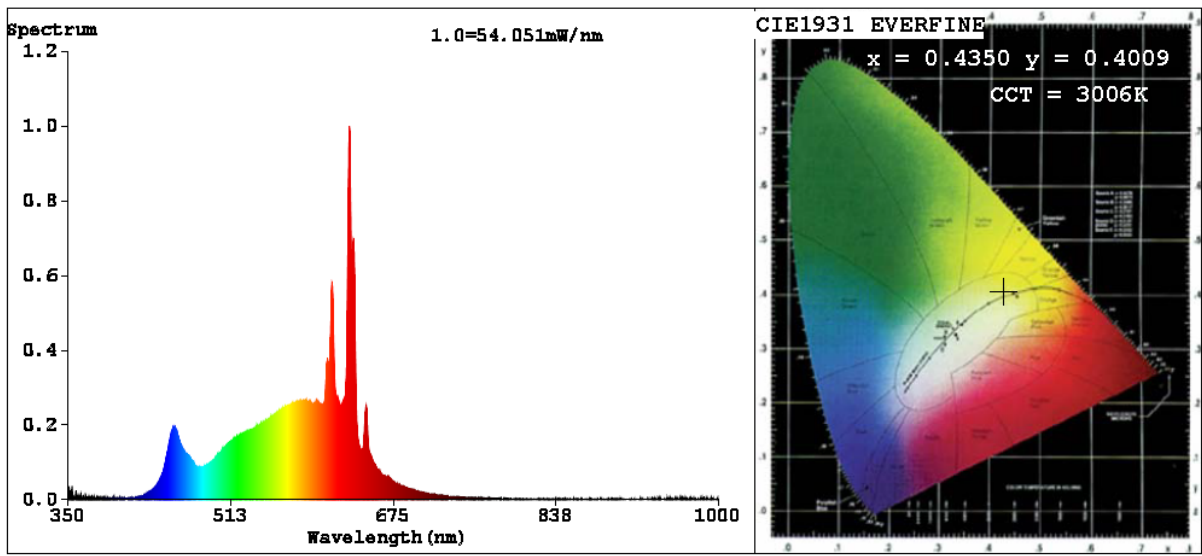
#### Chromaticity Measurement - Sphere-Spectroradiometer Method:

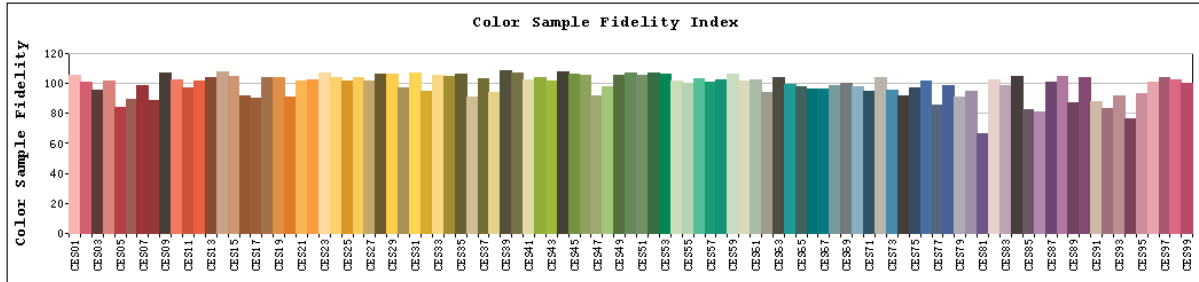
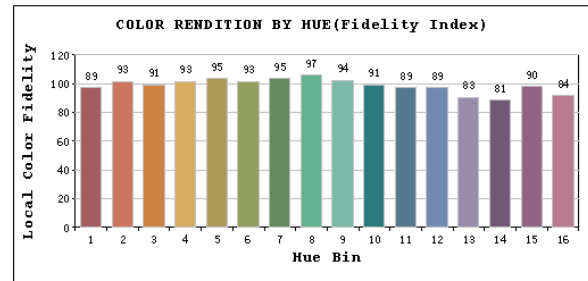
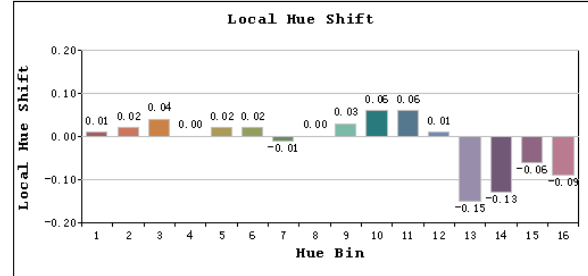
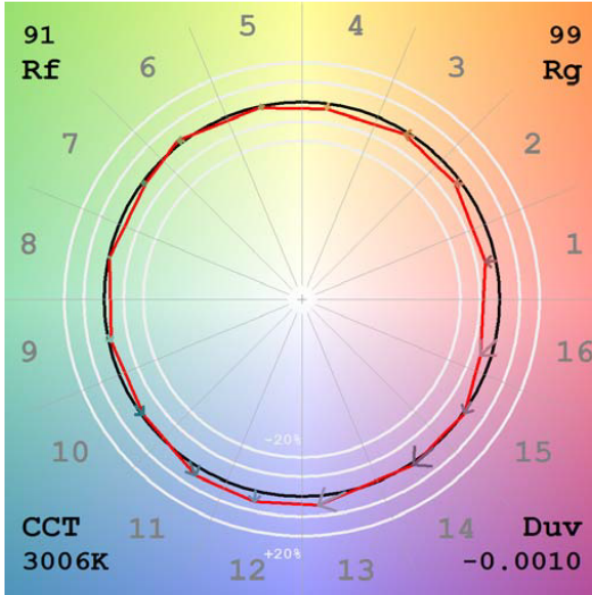
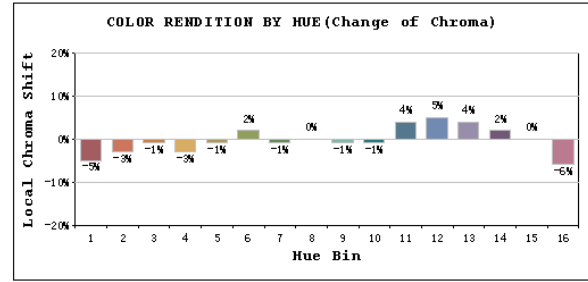
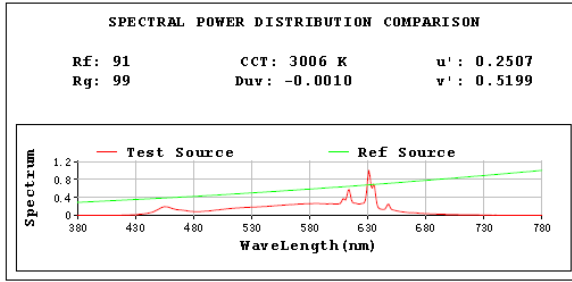
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	96	R9	67
Frequency (Hz)	60	R2	99	R10	94
CCT (K)	3006	R3	98	R11	96
Duv	-0.0010	R4	95	R12	80
Chromaticity (x, y)	x=0.4350 y=0.4009	R5	95	R13	97
Chromaticity (u', v')	u'=0.2507 v'=0.5199	R6	96	R14	98
Color Rendering Index (CRI)	94.6	R7	92	R15	93
R9	67	R8	85	--	--
Rg	99				
Rf	91				
Rcs,h1%	-5				

#### Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	915.8
Luminous Efficacy (lm/W)	101.20

# Spectral Power Distribution & Chromaticity Diagram





**2.1.4 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2025-10-17	<b>Test Ambient:</b>	25.1 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	WFRX-2B	3500K	

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202510160003	120.0	60	0.077	8.91	0.964

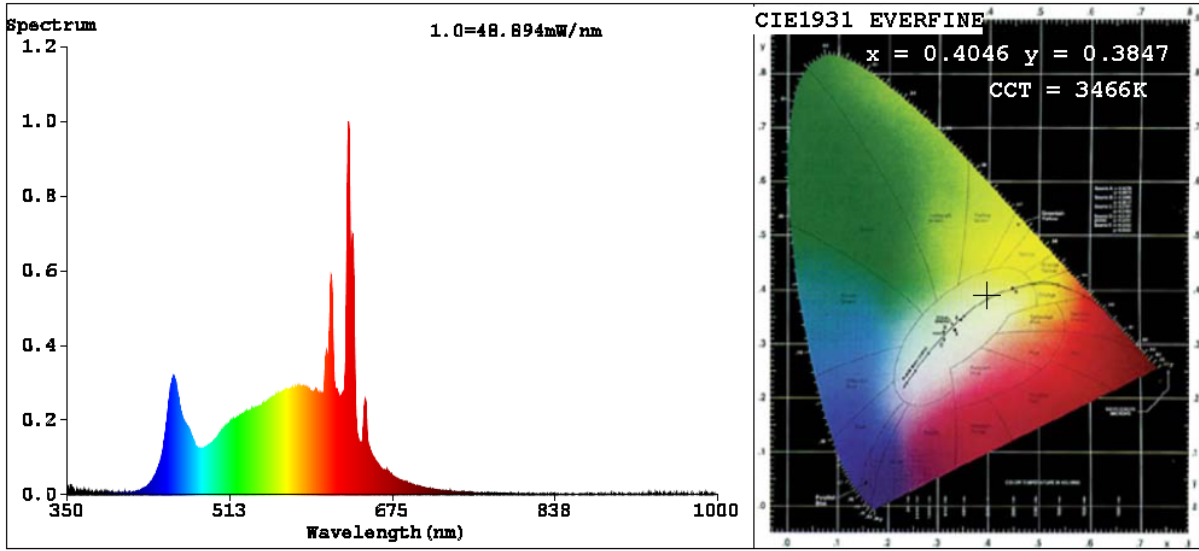
**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	73
Frequency (Hz)	60	R2	99	R10	96
CCT (K)	3466	R3	98	R11	95
Duv	-0.0025	R4	94	R12	76
Chromaticity (x, y)	x=0.4046 y=0.3847	R5	96	R13	98
Chromaticity (u', v')	u'=0.2377 v'=0.5086	R6	95	R14	98
Color Rendering Index (CRI)	95.0	R7	92	R15	95
R9	73	R8	88	--	--
Rg	99				
Rf	90				
Rcs,h1%	-5				

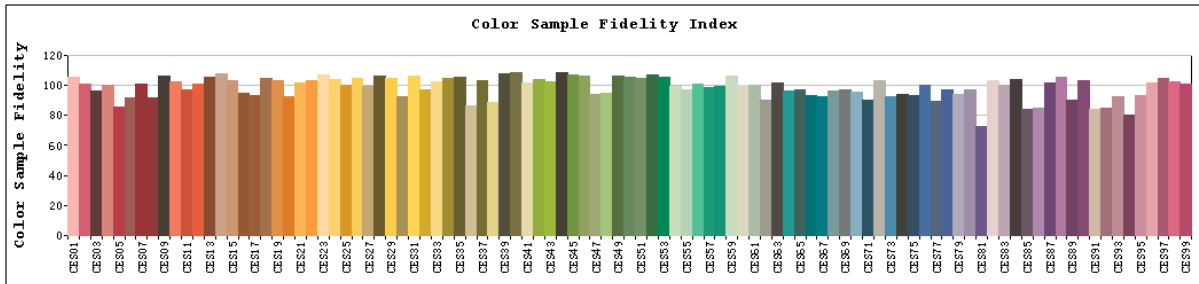
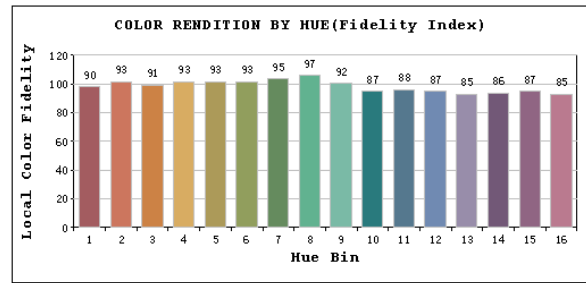
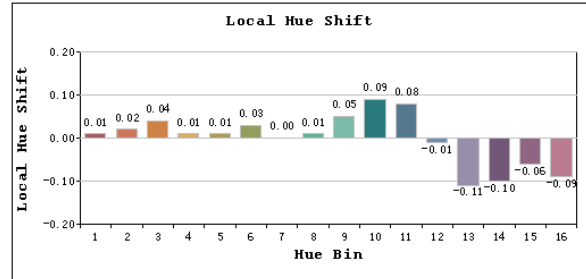
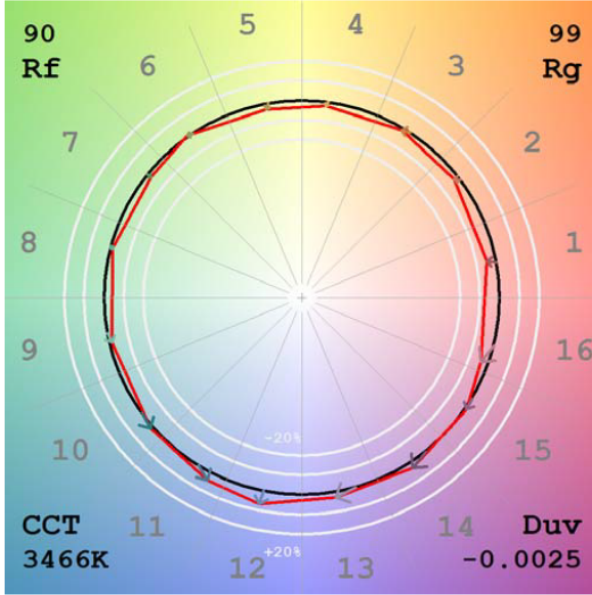
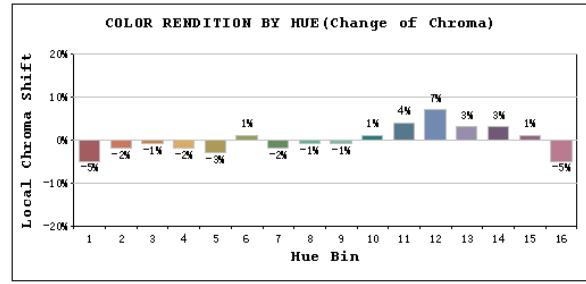
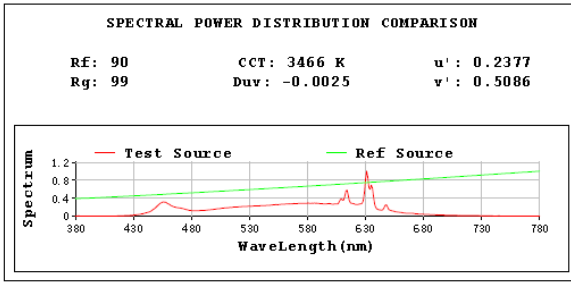
**Photometric Measurement – Goniophotometer Method:**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	927.8
Luminous Efficacy (lm/W)	104.13

# Spectral Power Distribution & Chromaticity Diagram



# TM30



**2.1.5 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2025-10-17	<b>Test Ambient:</b>	25.1 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	WFRX-2B	4000K	

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202510160003	120.0	60	0.077	8.95	0.964

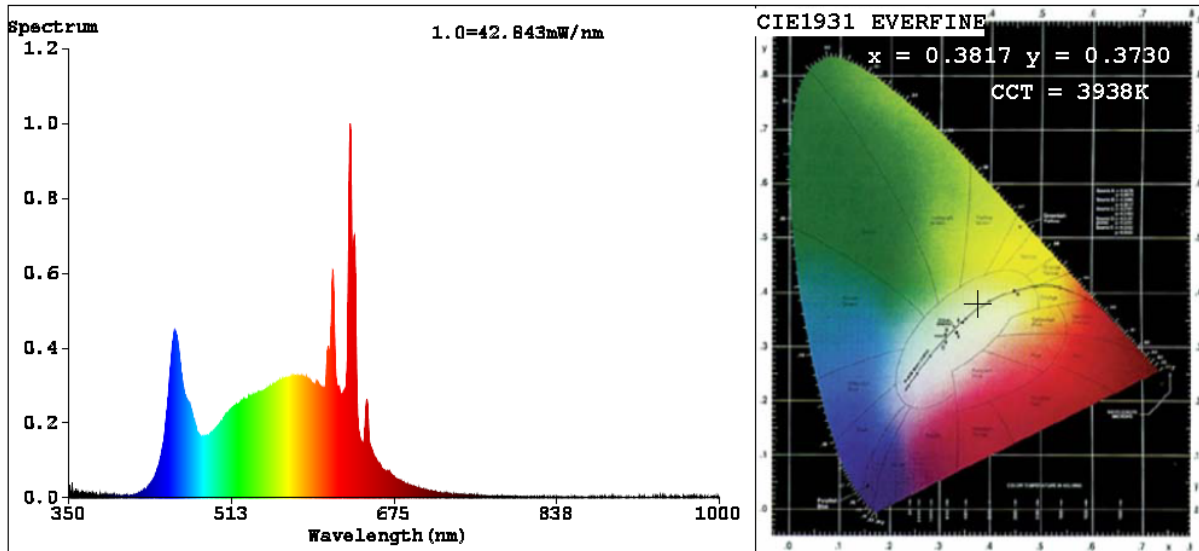
**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

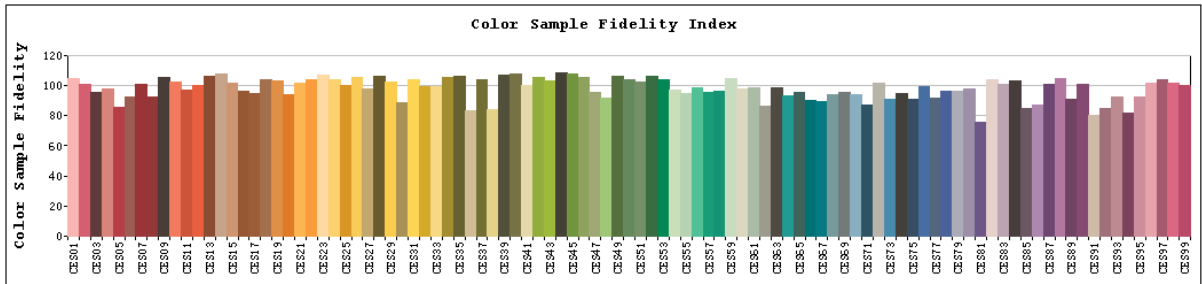
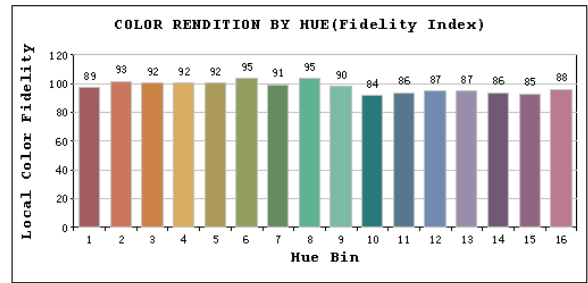
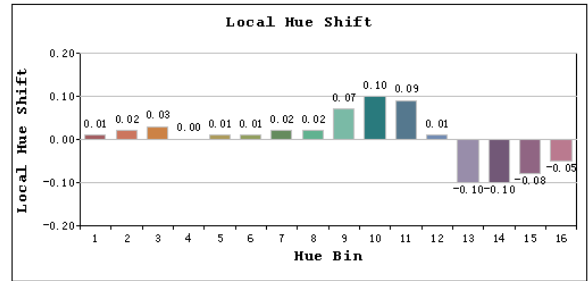
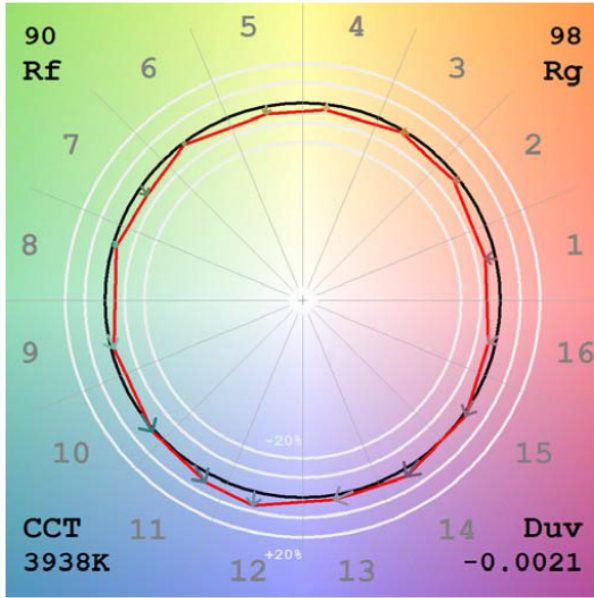
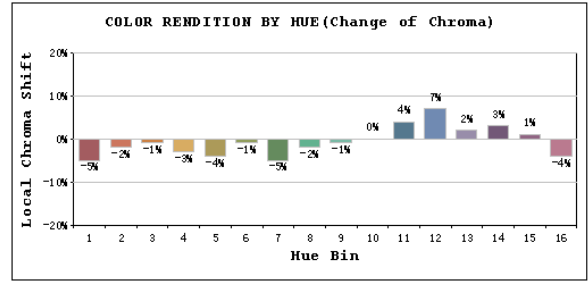
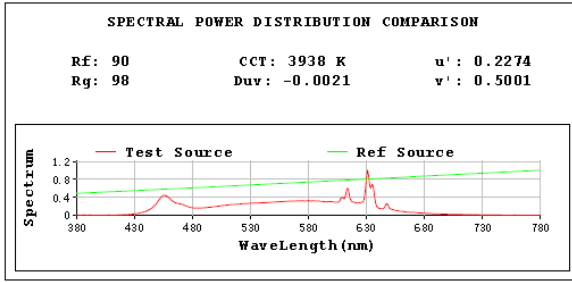
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	75
Frequency (Hz)	60	R2	99	R10	96
CCT (K)	3938	R3	98	R11	94
Duv	-0.0021	R4	93	R12	72
Chromaticity (x, y)	x=0.3817 y=0.3730	R5	94	R13	98
Chromaticity (u', v')	u'=0.2274 v'=0.5001	R6	95	R14	99
Color Rendering Index (CRI)	94.6	R7	92	R15	95
R9	75	R8	88	--	--
Rg	98				
Rf	90				
Rcs,h1%	-5				

**Photometric Measurement – Goniophotometer Method:**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	926.8
Luminous Efficacy (lm/W)	103.55

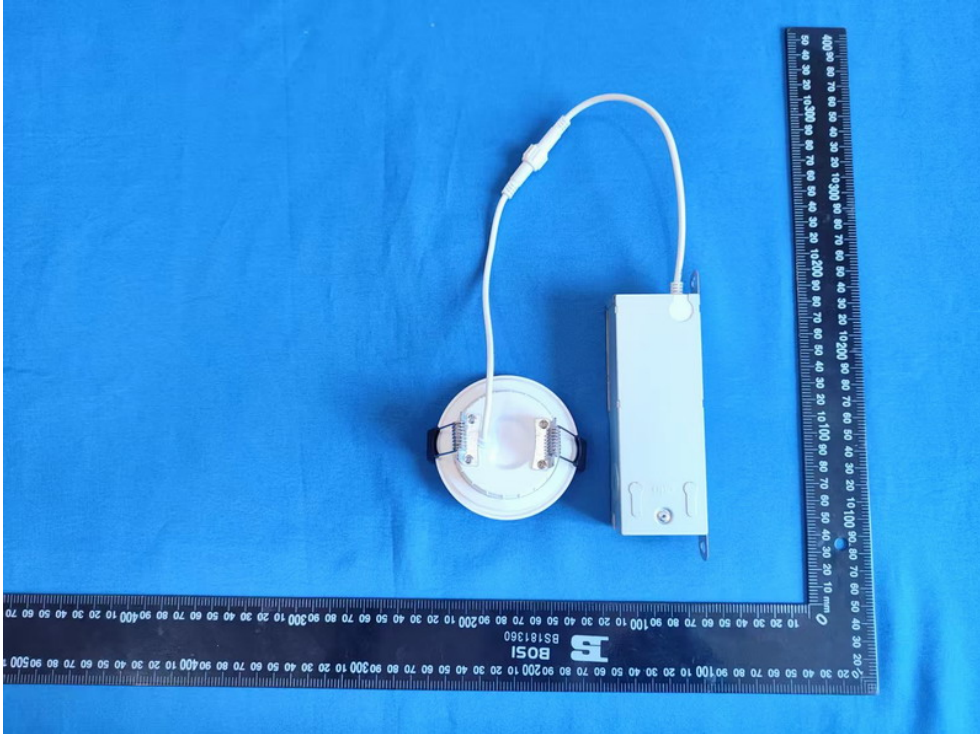
# Spectral Power Distribution & Chromaticity Diagram





Sample No.	Wattage and CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
WFRX-2B	6W-5000K setting	120	555.9	5.80	95.84
	8W-5000K setting	120	732.2	7.61	96.22
	10W-2700K setting	120	904.1	9.13	99.03
	10W-3000K setting	120	915.8	9.05	101.20
	10W-3500K setting	120	927.8	8.91	104.13
	10W-4000K setting	120	926.8	8.95	103.55
	10W-5000K setting	120	910.3	9.11	99.93

### 3. Product Photo



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