

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):
WFD34-4

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

**Type of
Luminaire:** Downlights

Report Date: 2025-05-09

Prepared By:

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	7.0W
Rated Initial Lamp Lumen	600lm (mode 2700K)
Declared CCT	2700K/3000K/3500K/4000K/5000K

1.2 Test Specifications:

Test item	<ol style="list-style-type: none"> 1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none"> 1. IES LM-79-2008 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 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

1.3 Test Methods

<p>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.</p>
<p>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</p>
<p>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.</p>

2.1.1 Electrical, Photometric and Chromaticity Measurements

Test date	2025-05-07	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	WFD34-4	2700K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270115	120.0	60	0.062	6.97	0.930

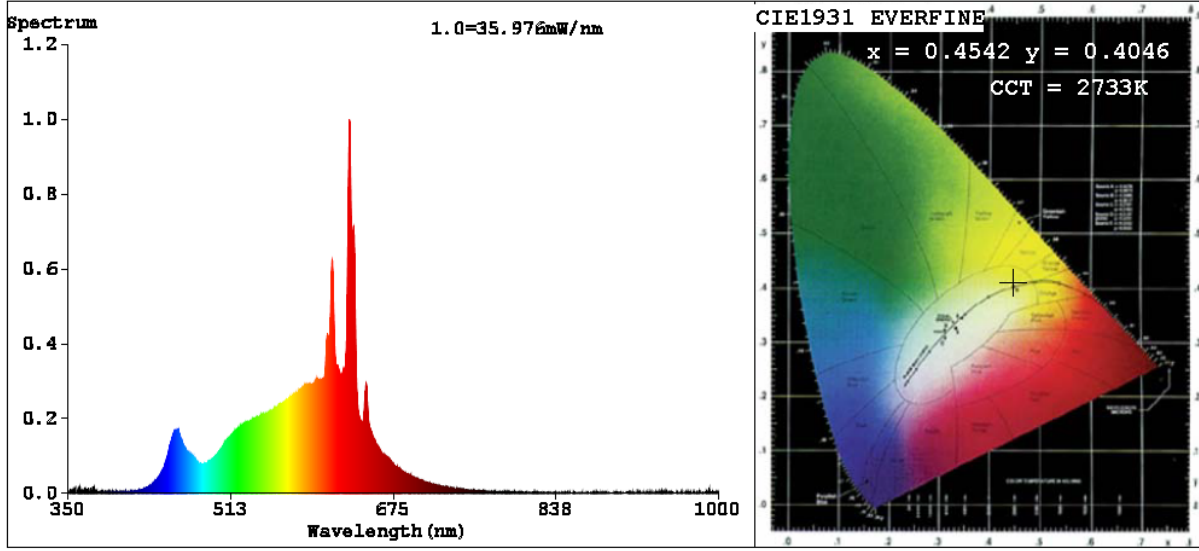
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	65
Frequency (Hz)	60	R2	99	R10	97
CCT (K)	2733	R3	99	R11	98
Duv	-0.0017	R4	97	R12	85
Chromaticity (x, y)	x=0.4542 y=0.4046	R5	98	R13	99
Chromaticity (u', v')	u'=0.2615 v'=0.5242	R6	95	R14	98
Color Rendering Index (CRI)	95.1	R7	91	R15	93
R9	65	R8	84	--	--
Rg	101				
Rf	91				
Rcs,h1%	-5				

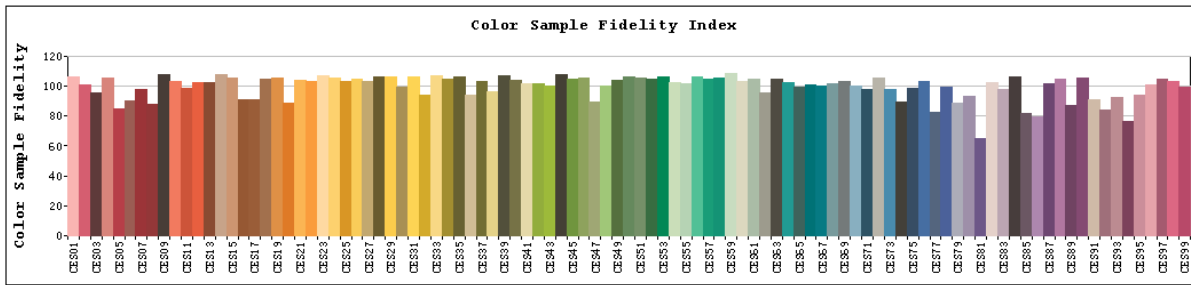
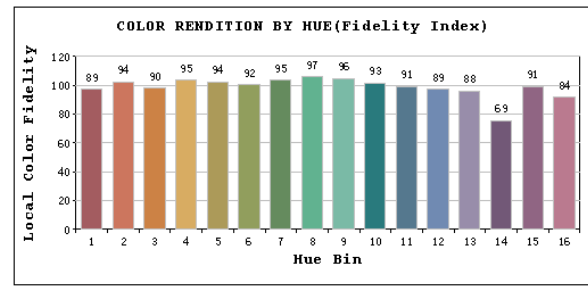
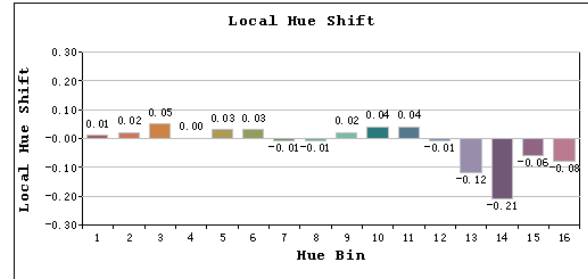
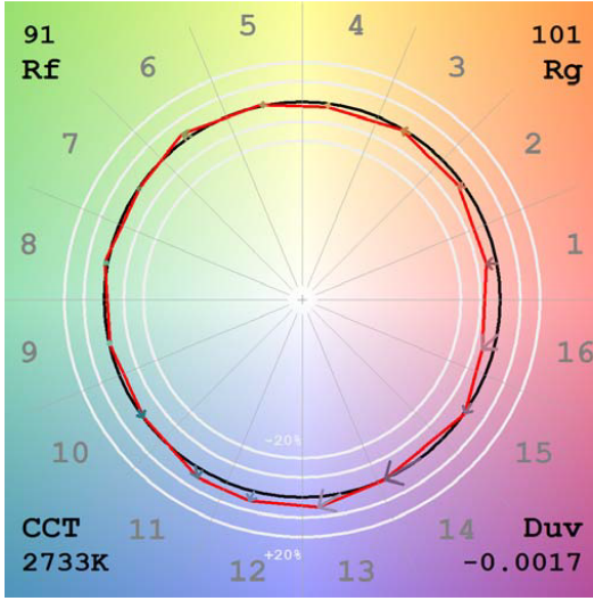
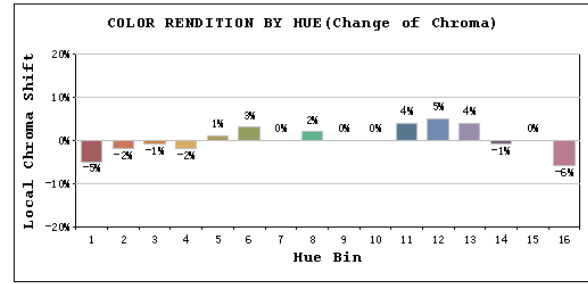
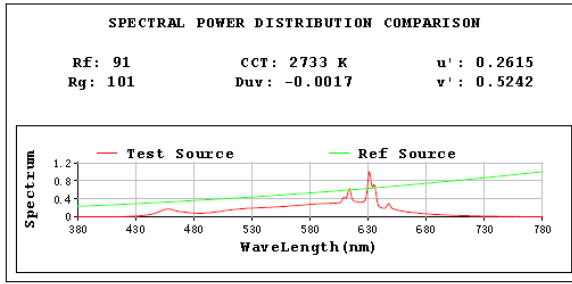
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	633.0
Luminous Efficacy (lm/W)	90.81
Beam Angle (°)	93.7
Center Beam Candle Power (cd)	300.7

Spectral Power Distribution & Chromaticity Diagram



TM30

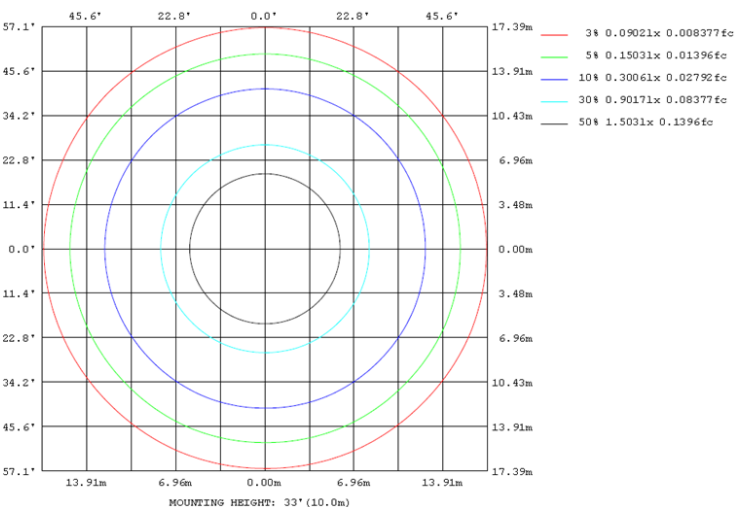
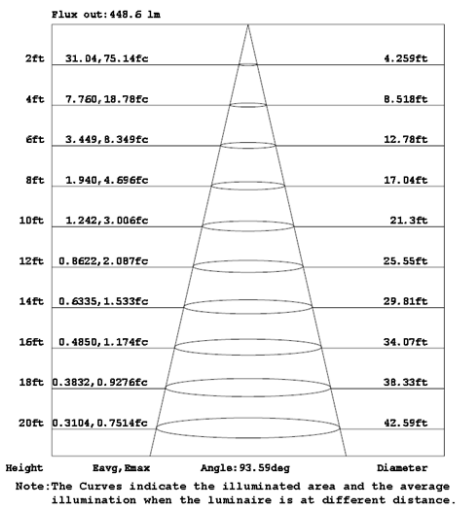
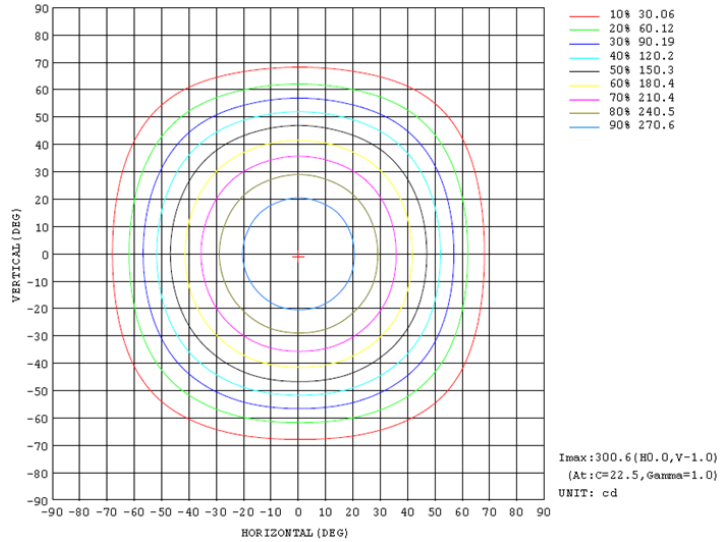
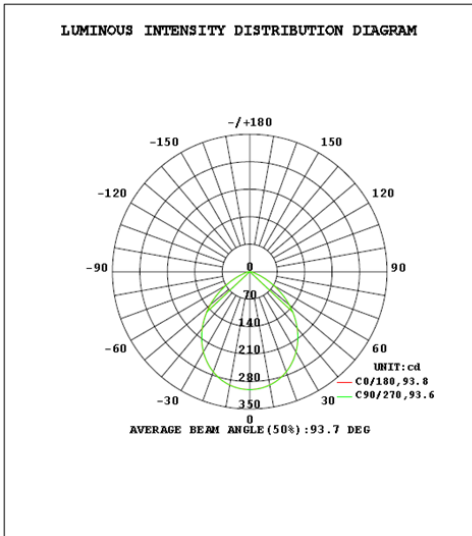


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	226.1	35.7%
0-40	359.4	56.8%
0-60	573.4	90.6%
60-90	59.5	9.4%
70-100	15.2	2.4%
90-120	0.0	0.0%
0-90	633.0	100.0%
90-180	0.0	0.0%
0-180	633.0	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	28.3	4.5%	90-100	0.0	0.0%
10-20	80.1	12.7%	100-110	0.0	0.0%
20-30	117.6	18.6%	110-120	0.0	0.0%
30-40	133.3	21.1%	120-130	0.0	0.0%
40-50	123.8	19.6%	130-140	0.0	0.0%
50-60	90.2	14.3%	140-150	0.0	0.0%
60-70	44.3	7.0%	150-160	0.0	0.0%
70-80	12.6	2.0%	160-170	0.0	0.0%
80-90	2.7	0.4%	170-180	0.0	0.0%

Photometric Data



2.1.2 Electrical, Photometric and Chromaticity Measurements

Test date	2025-05-07	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	WFD34-4	3000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270115	120.0	60	0.062	6.91	0.933

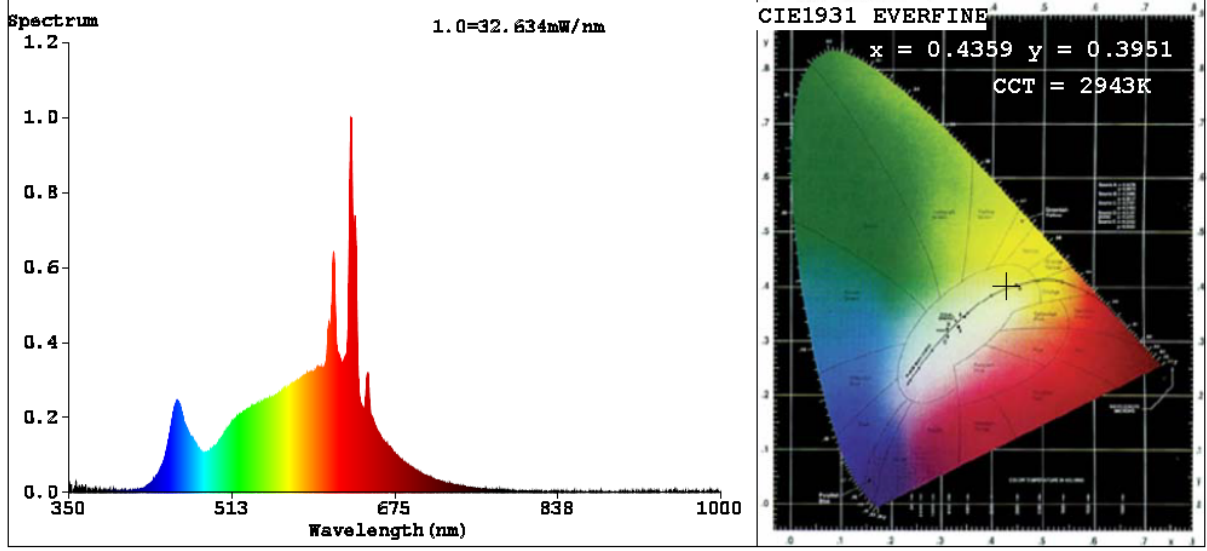
Chromaticity Measurement - Sphere-Spectroradiometer Method:

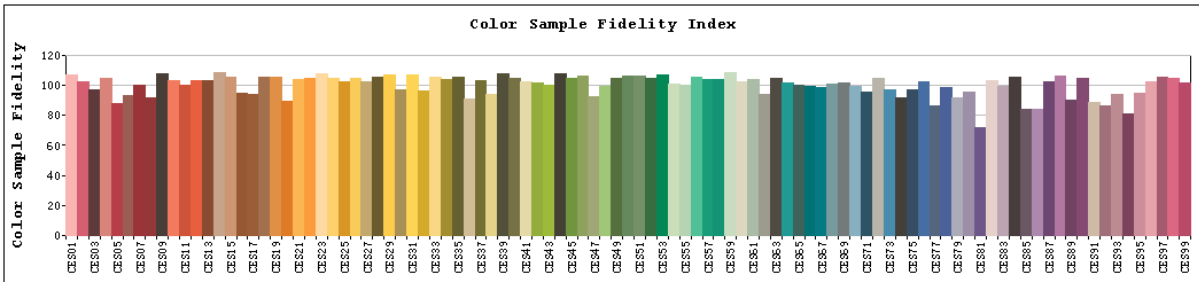
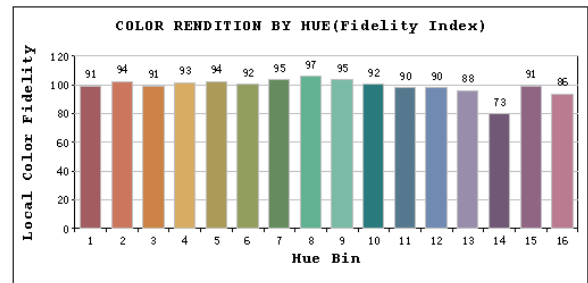
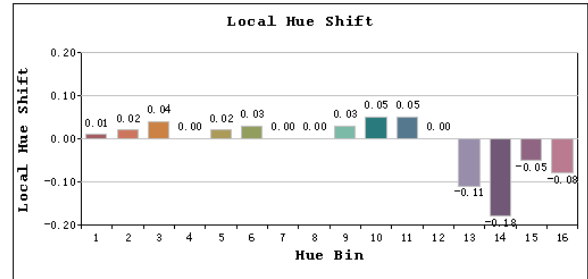
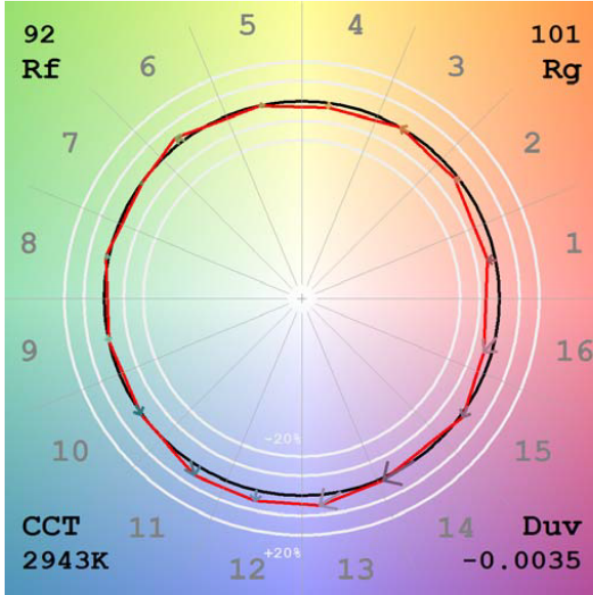
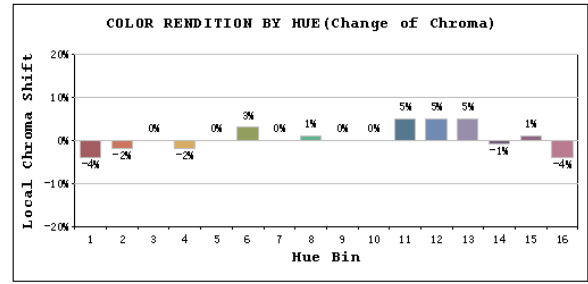
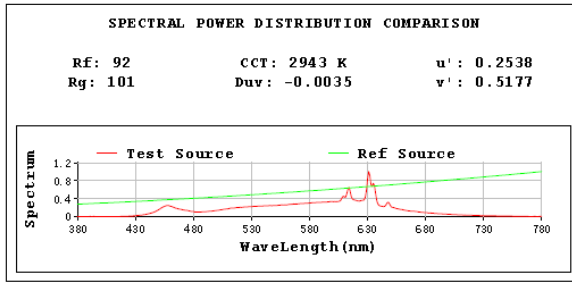
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	99	R9	74
Frequency (Hz)	60	R2	98	R10	99
CCT (K)	2943	R3	99	R11	98
Duv	-0.0035	R4	98	R12	83
Chromaticity (x, y)	x=0.4359 y=0.3951	R5	98	R13	99
Chromaticity (u', v')	u'=0.2538 v'=0.5177	R6	93	R14	98
Color Rendering Index (CRI)	95.5	R7	92	R15	96
R9	74	R8	88	--	--
Rg	101				
Rf	92				
Rcs,h1%	-4				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	653.9
Luminous Efficacy (lm/W)	94.63

Spectral Power Distribution & Chromaticity Diagram





2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2025-05-07	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	WFD34-4	3500K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270115	120.0	60	0.061	6.85	0.937

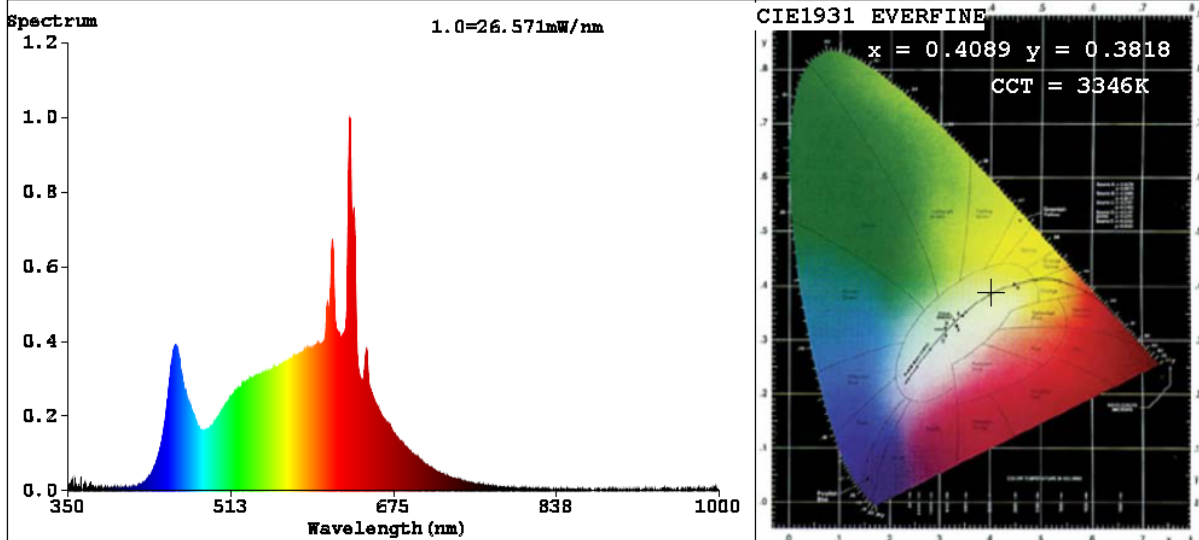
Chromaticity Measurement - Sphere-Spectroradiometer Method:

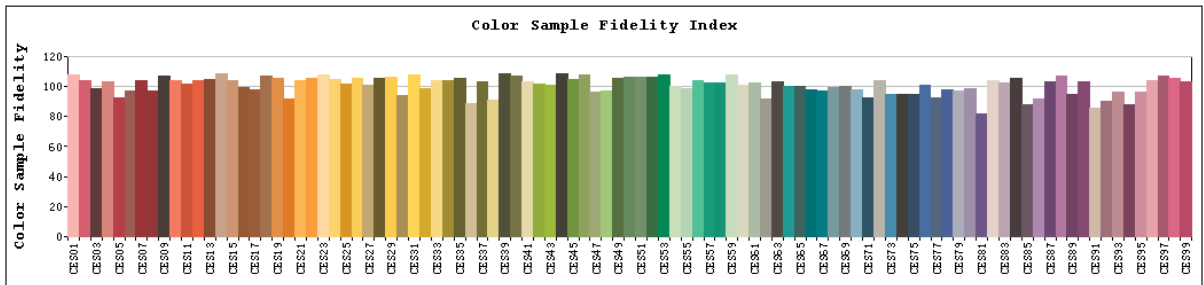
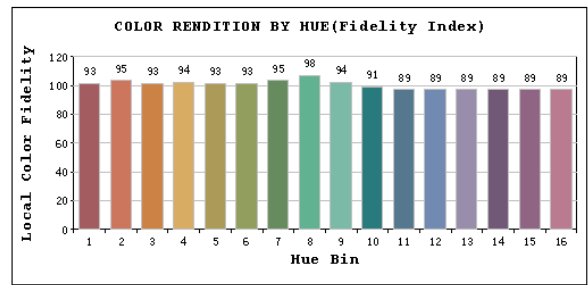
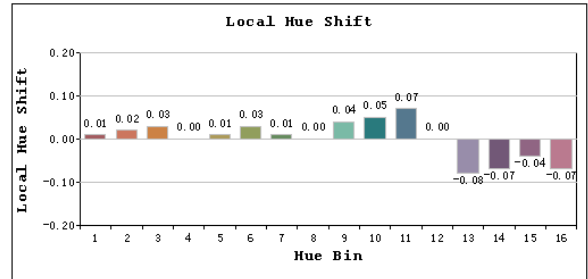
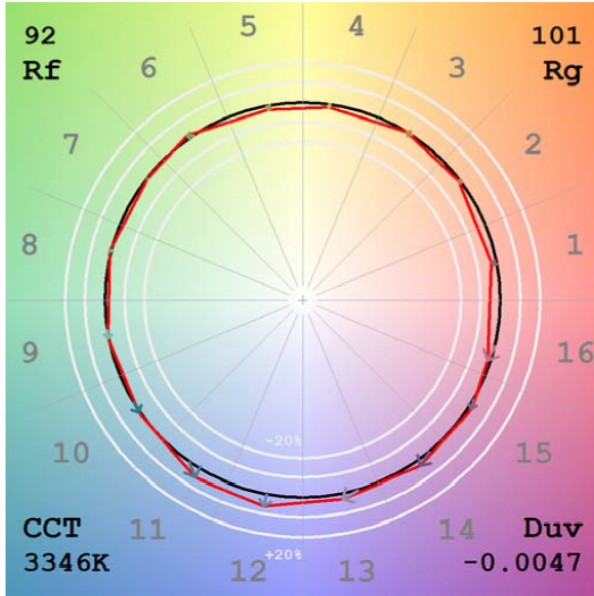
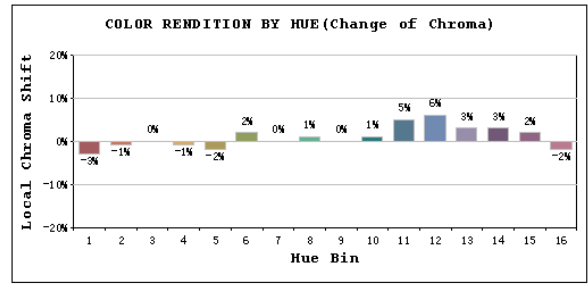
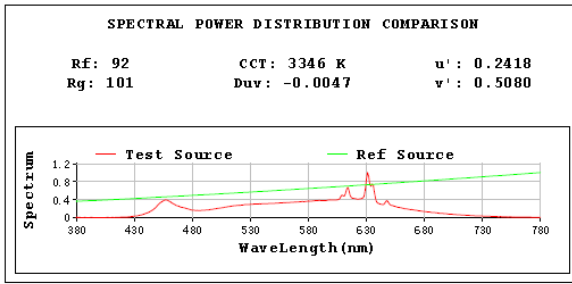
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	85
Frequency (Hz)	60	R2	97	R10	97
CCT (K)	3346	R3	98	R11	98
Duv	-0.0047	R4	98	R12	80
Chromaticity (x, y)	x=0.4089 y=0.3818	R5	97	R13	97
Chromaticity (u', v')	u'=0.2418 v'=0.5080	R6	93	R14	98
Color Rendering Index (CRI)	95.9	R7	93	R15	98
R9	85	R8	92	--	--
Rg	101				
Rf	92				
Rcs,h1%	-3				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	677.0
Luminous Efficacy (lm/W)	98.83

Spectral Power Distribution & Chromaticity Diagram





2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2025-05-07	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	WFD34-4	4000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270115	120.0	60	0.061	6.85	0.933

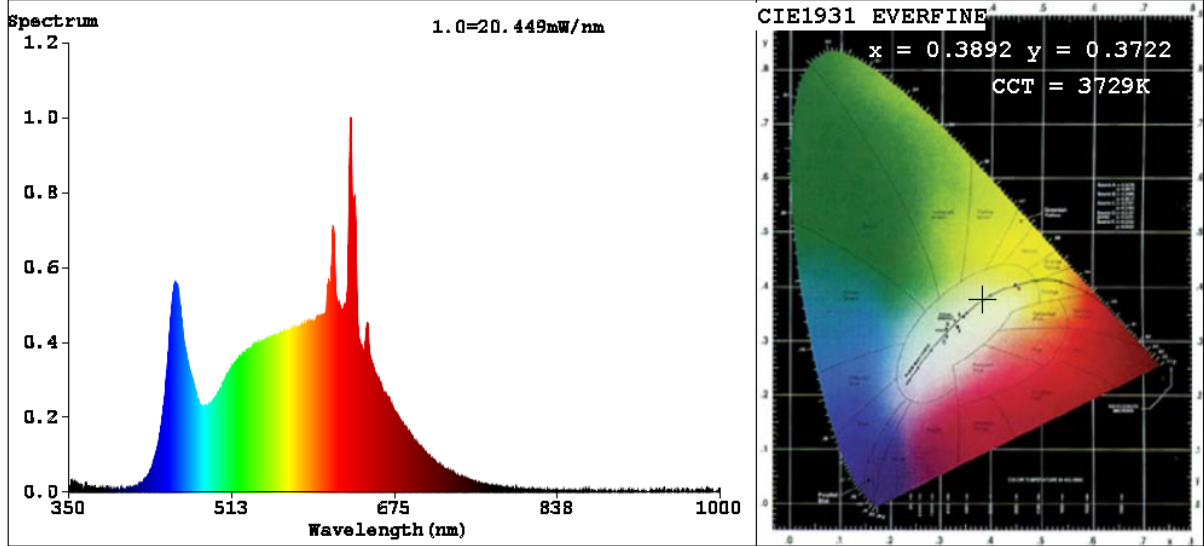
Chromaticity Measurement - Sphere-Spectroradiometer Method:

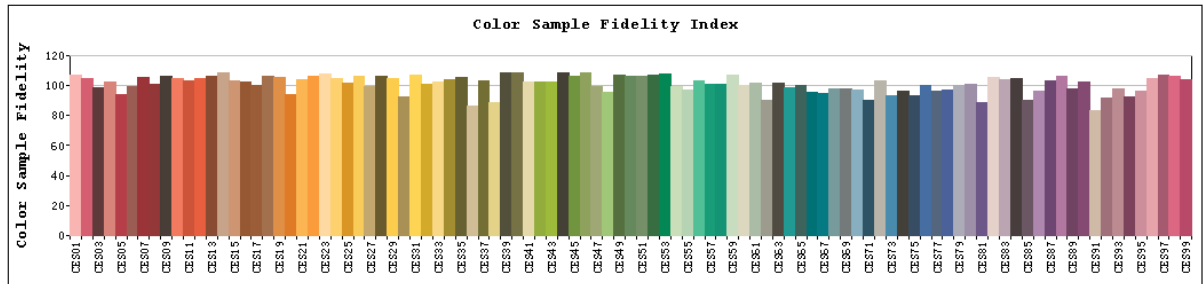
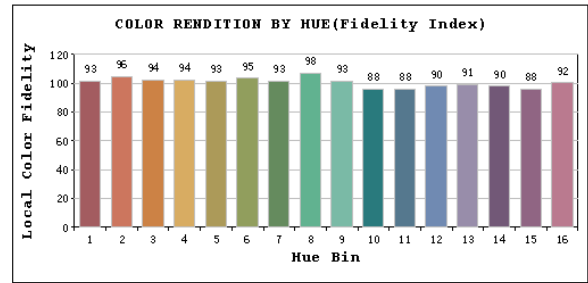
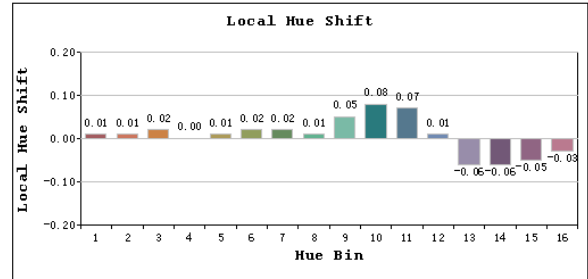
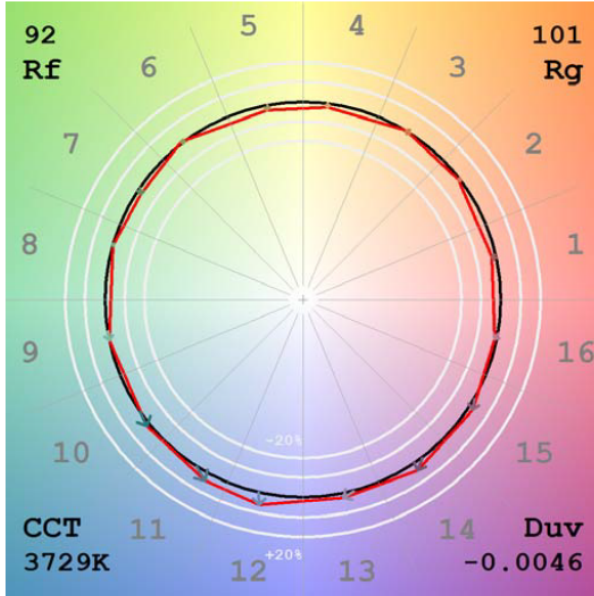
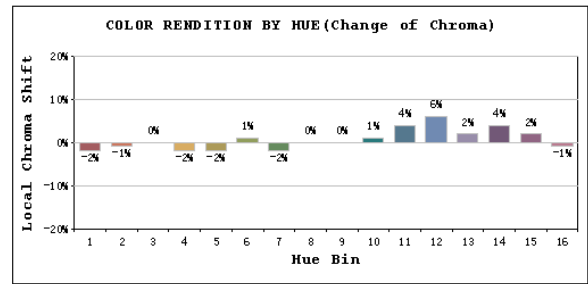
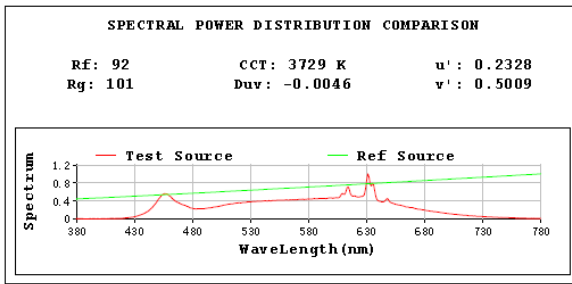
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	91
Frequency (Hz)	60	R2	97	R10	98
CCT (K)	3729	R3	98	R11	98
Duv	-0.0046	R4	98	R12	77
Chromaticity (x, y)	x=0.3892 y=0.3722	R5	97	R13	97
Chromaticity (u', v')	u'=0.2328 v'=0.5009	R6	94	R14	98
Color Rendering Index (CRI)	96.3	R7	95	R15	97
R9	91	R8	95	--	--
Rg	101				
Rf	92				
Rcs,h1%	-2				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	672.7
Luminous Efficacy (lm/W)	98.20

Spectral Power Distribution & Chromaticity Diagram





2.1.5 Electrical, Photometric and Chromaticity Measurements

Test date	2025-05-07	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	WFD34-4	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270115	120.0	60	0.063	6.96	0.927

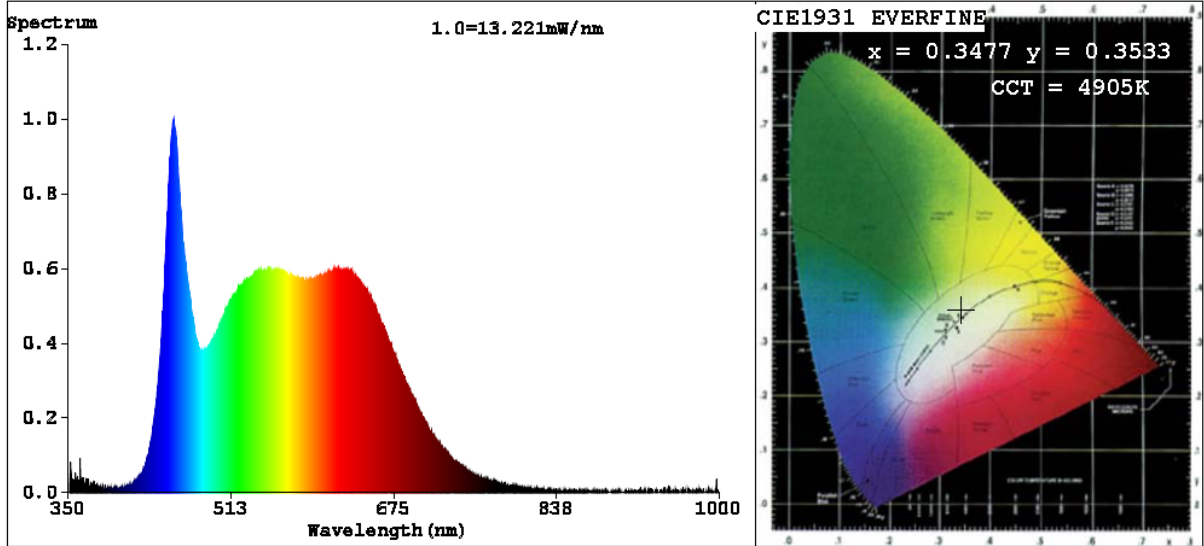
Chromaticity Measurement - Sphere-Spectroradiometer Method:

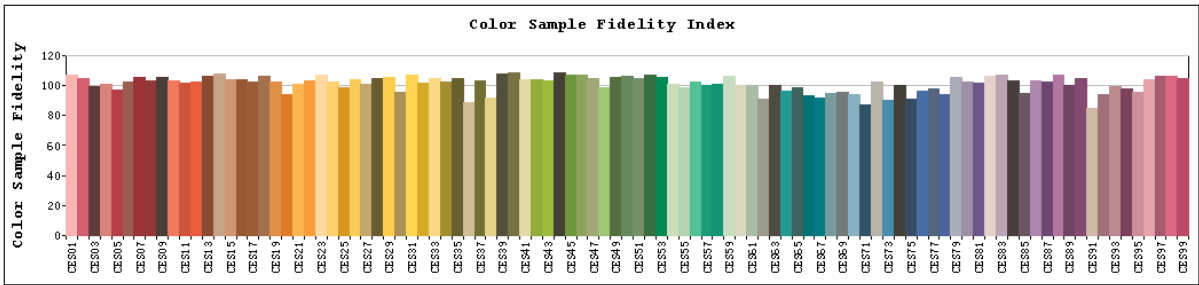
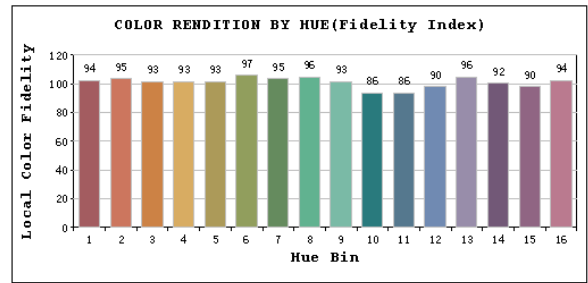
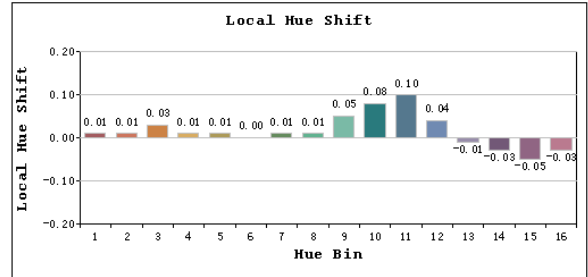
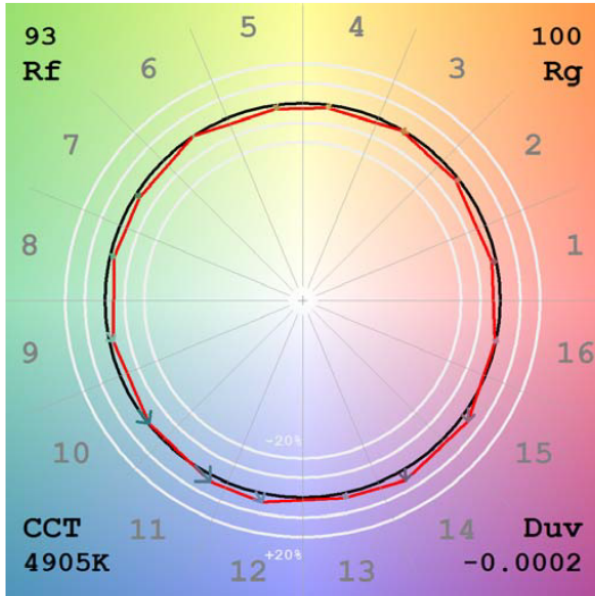
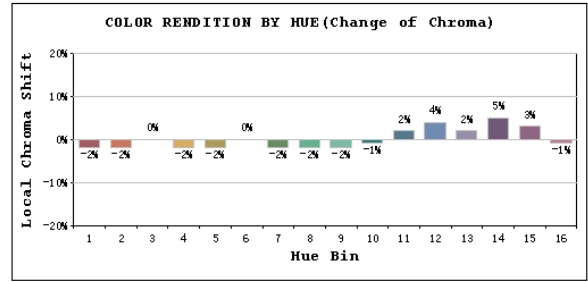
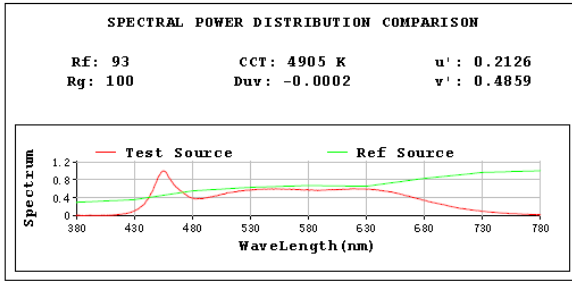
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	90
Frequency (Hz)	60	R2	99	R10	95
CCT (K)	4905	R3	97	R11	94
Duv	-0.0002	R4	94	R12	68
Chromaticity (x, y)	x=0.3477 y=0.3533	R5	94	R13	98
Chromaticity (u', v')	u'=0.2126 v'=0.4859	R6	94	R14	98
Color Rendering Index (CRI)	95.6	R7	96	R15	95
R9	90	R8	94	--	--
Rg	100				
Rf	93				
Rcs,h1%	-2				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	612.2
Luminous Efficacy (lm/W)	87.96

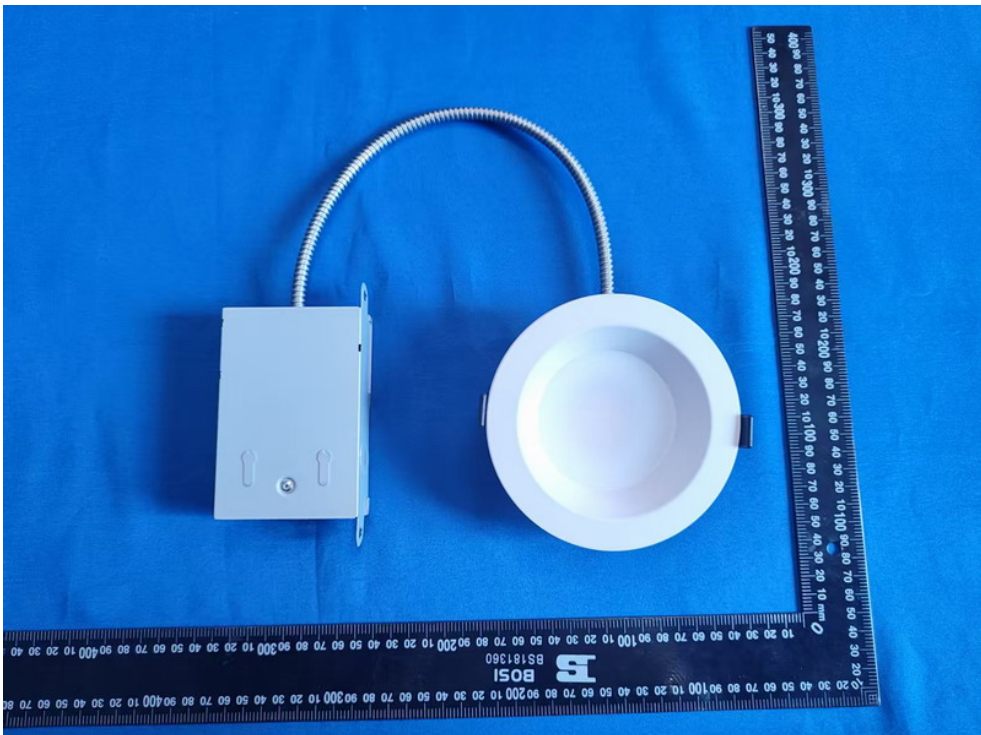
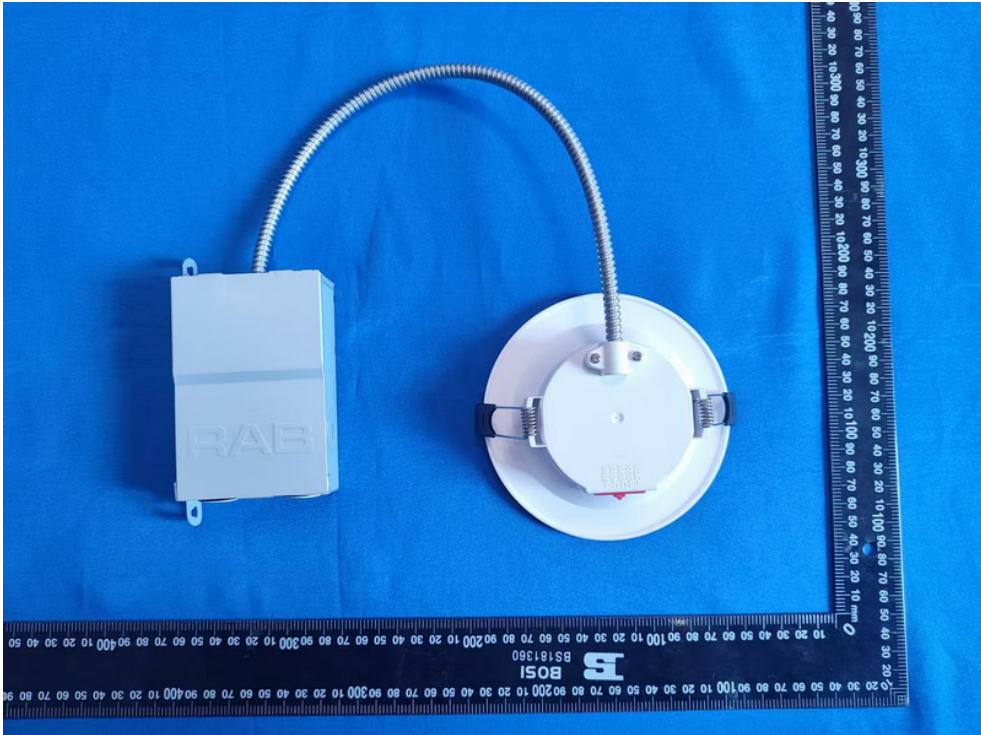
Spectral Power Distribution & Chromaticity Diagram





Sample No.	Wattage and CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
WFD34-4	2700K setting	120	633.0	6.97	90.81
	3000K setting	120	653.9	6.91	94.63
	3500K setting	120	677.0	6.85	98.83
	4000K setting	120	672.7	6.85	98.20
	5000K setting	120	612.2	6.96	87.96

3. Product Photo



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