

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):
WFD34-4B

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

**Type of
Luminaire:** Downlights

Report Date: 2025-05-09

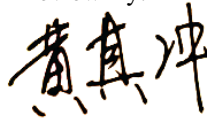
Prepared By:

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	WFD34-4B	2700K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270116	120.0	60	0.062	6.94	0.931

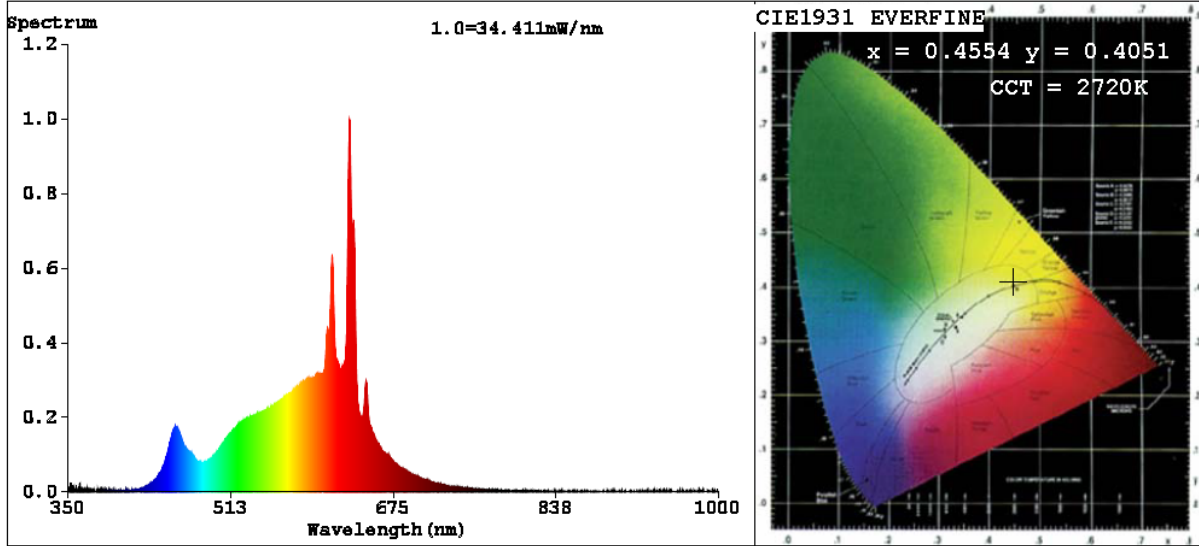
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	64
Frequency (Hz)	60	R2	99	R10	96
CCT (K)	2720	R3	98	R11	98
Duv	-0.0017	R4	97	R12	85
Chromaticity (x, y)	x=0.4554 y=0.4051	R5	97	R13	99
Chromaticity (u', v')	u'=0.2621 v'=0.5246	R6	95	R14	98
Color Rendering Index (CRI)	94.9	R7	91	R15	93
R9	64	R8	84	--	--
Rg	101				
Rf	91				
Rcs,h1%	-6				

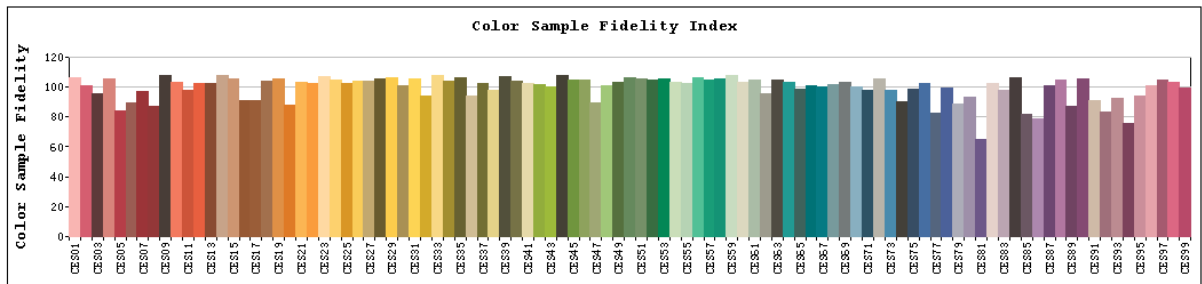
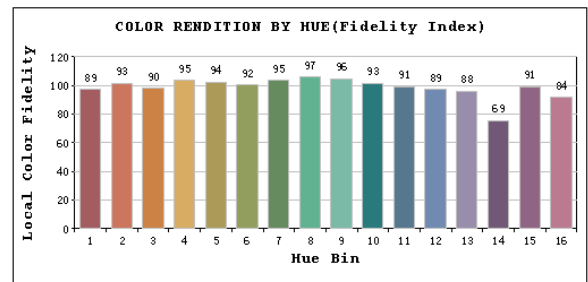
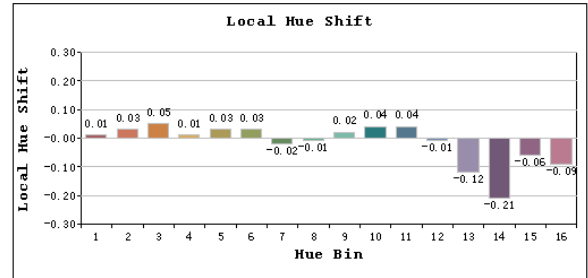
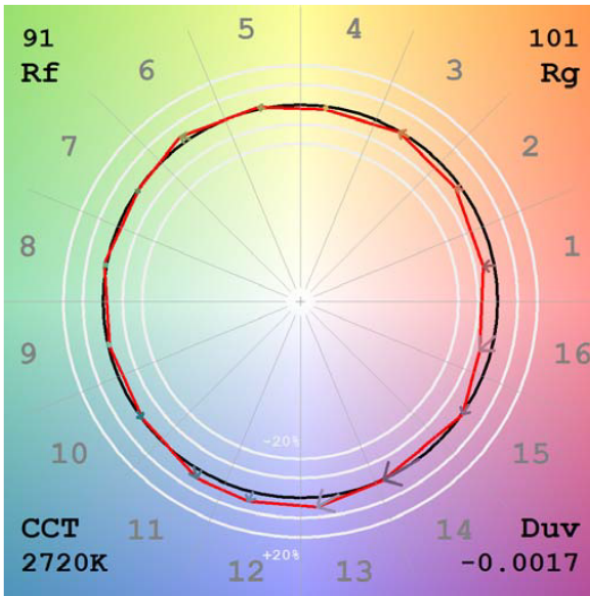
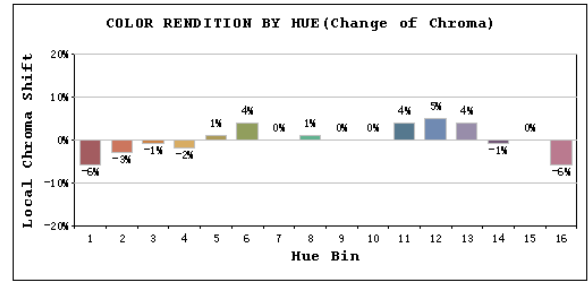
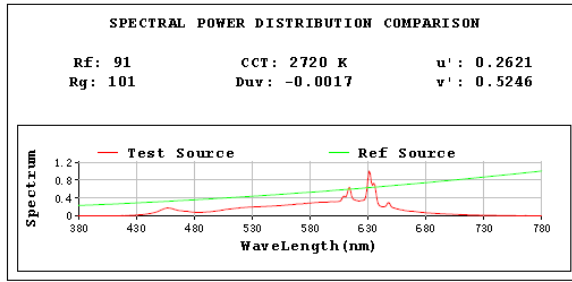
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	624.7
Luminous Efficacy (lm/W)	90.02
Beam Angle (°)	93.9
Center Beam Candle Power (cd)	294.3

Spectral Power Distribution & Chromaticity Diagram



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Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	221.4	35.4%
0-40	352.3	56.4%
0-60	563.4	90.2%
60-90	61.4	9.8%
70-100	16.6	2.7%
90-120	0.0	0.0%
0-90	624.7	100.0%
90-180	0.0	0.0%
0-180	624.7	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	27.8	4.4%	90-100	0.0	0.0%
10-20	78.4	12.6%	100-110	0.0	0.0%
20-30	115.2	18.4%	110-120	0.0	0.0%
30-40	130.9	21.0%	120-130	0.0	0.0%
40-50	121.7	19.5%	130-140	0.0	0.0%
50-60	89.4	14.3%	140-150	0.0	0.0%
60-70	44.7	7.2%	150-160	0.0	0.0%
70-80	13.7	2.2%	160-170	0.0	0.0%
80-90	2.9	0.5%	170-180	0.0	0.0%

Photometric Data

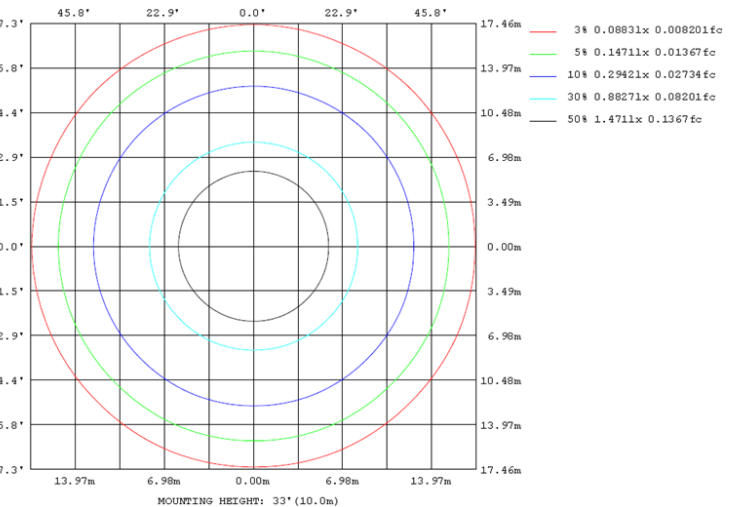
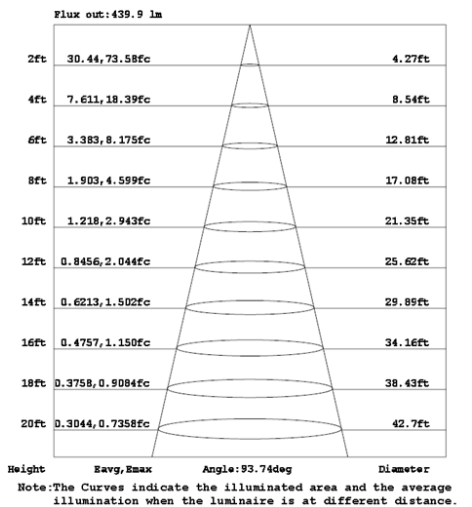
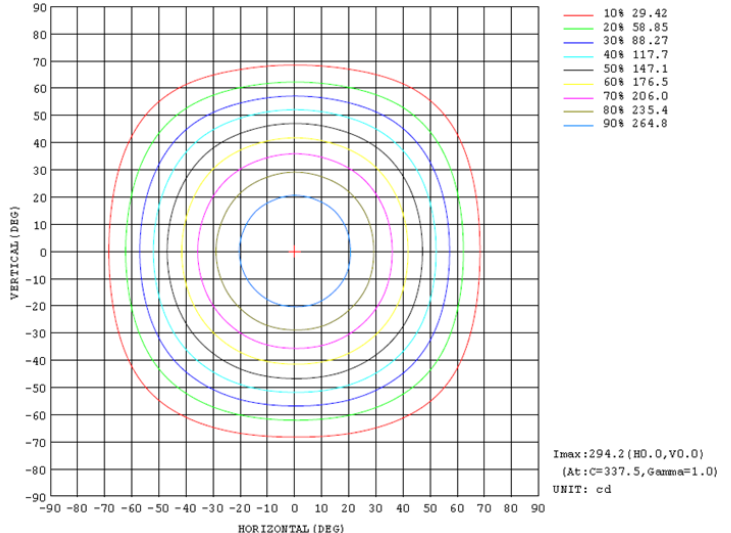
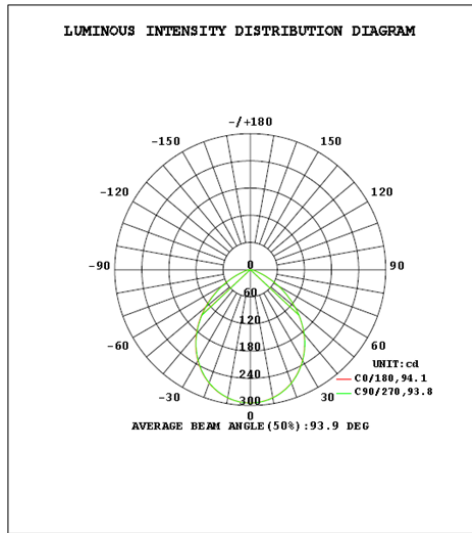


Table--1

UNIT: cd

γ (DEG)	C (DEG)															
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	294	294	294	294	294	294	294	294	294	294	294	294	294	294	294	294
5	293	293	292	293	293	292	292	292	292	292	292	292	292	293	293	293
10	287	288	287	287	287	287	287	287	287	287	287	287	287	287	288	288
15	279	279	278	279	278	278	278	278	278	278	278	278	279	278	279	279
20	267	267	266	267	266	266	265	265	266	265	266	265	267	266	267	267
25	251	252	251	251	250	250	249	250	250	250	250	250	251	251	252	252
30	232	233	232	232	231	231	230	231	231	231	231	231	232	232	233	233
35	211	211	210	210	209	209	208	209	209	209	209	209	210	210	211	211
40	186	187	186	186	184	185	183	184	185	184	185	184	186	186	187	187
45	159	160	159	159	157	158	156	157	158	157	158	157	159	158	160	160
50	131	131	130	130	128	129	128	128	129	129	130	129	130	130	131	131
55	101	102	100	100	98.9	99.5	98.3	99.2	100	99.4	100	99.5	101	100	102	102
60	71.3	72.1	70.8	71.1	69.8	70.4	69.5	70.3	71.4	70.4	71.4	70.4	71.4	70.9	72.6	72.3
65	44.4	45.1	44.2	44.5	43.6	44.0	43.3	43.8	44.7	44.0	44.7	44.0	44.7	44.4	45.6	45.3
70	23.5	24.0	23.5	23.8	23.1	23.4	22.8	23.2	23.7	23.3	23.7	23.3	23.8	23.7	24.4	24.1
75	12.0	12.3	12.1	12.2	11.9	12.0	11.7	11.8	12.1	11.9	12.1	12.0	12.2	12.2	12.4	12.3
80	6.10	6.21	6.10	6.15	6.02	6.05	5.91	6.00	6.15	6.08	6.20	6.14	6.26	6.21	6.34	6.27
85	2.61	2.66	2.57	2.60	2.51	2.51	2.45	2.46	2.56	2.51	1.93	2.57	2.66	2.64	2.74	2.70
90	0.16	0.15	0.15	0.14	0.15	0.14	0.14	0.14	0.13	0.12	0.12	0.12	0.12	0.13	0.13	0.14

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	WFD34-4B	3000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270116	120.0	60	0.061	6.86	0.934

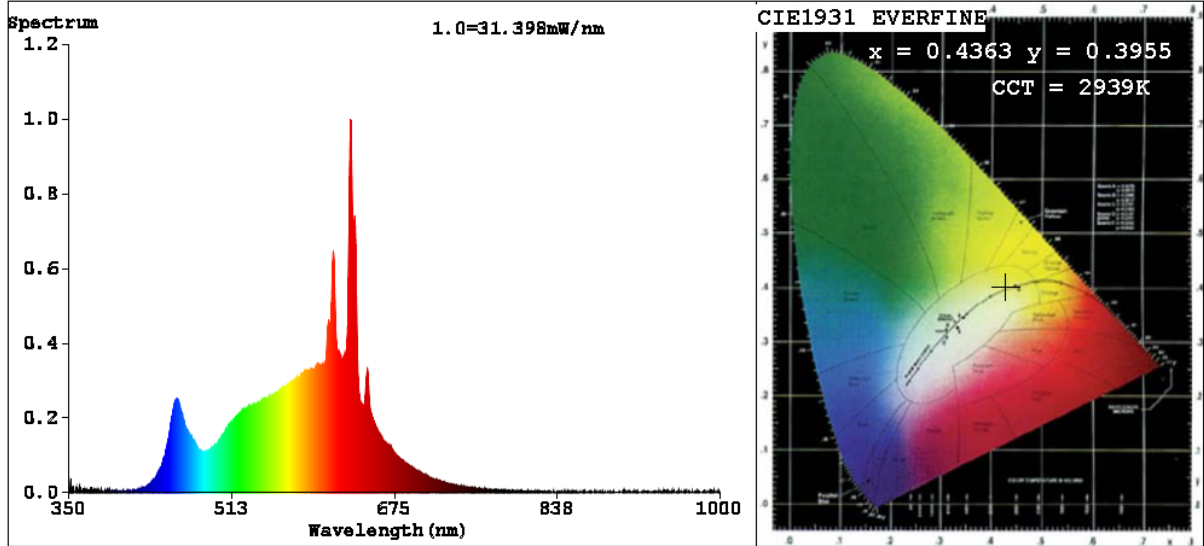
Chromaticity Measurement - Sphere-Spectroradiometer Method:

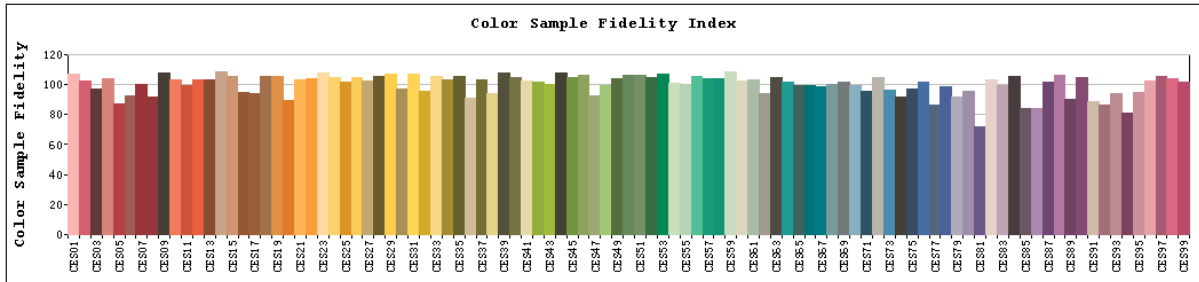
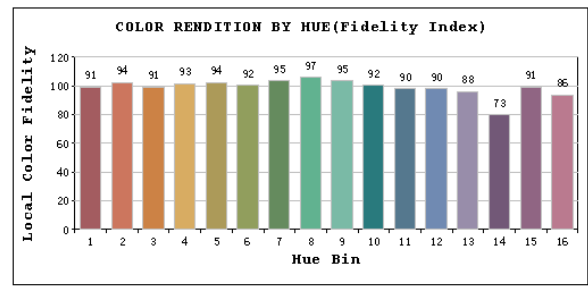
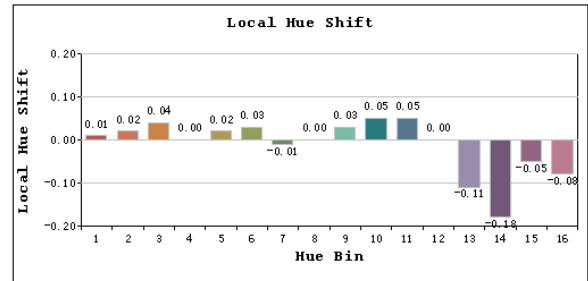
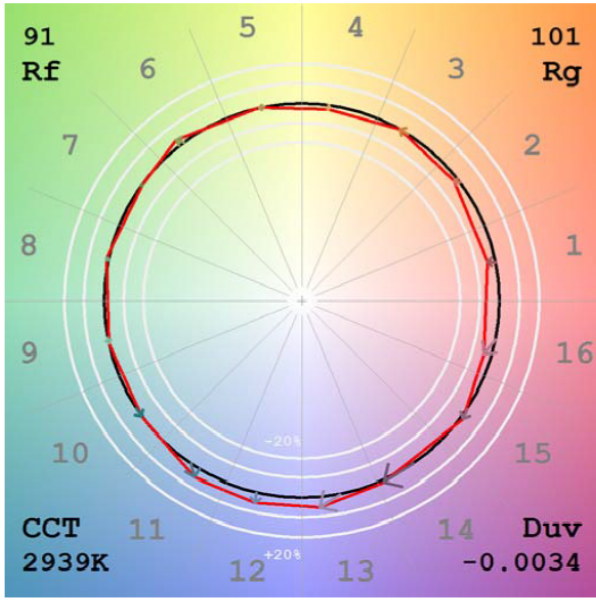
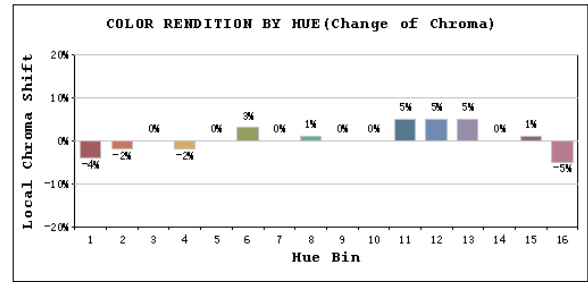
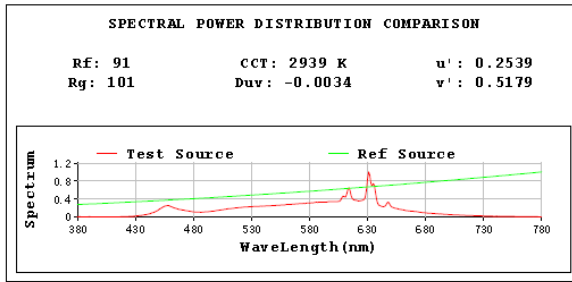
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	99	R9	73
Frequency (Hz)	60	R2	98	R10	99
CCT (K)	2939	R3	99	R11	98
Duv	-0.0034	R4	98	R12	83
Chromaticity (x, y)	x=0.4363 y=0.3955	R5	98	R13	99
Chromaticity (u', v')	u'=0.2539 v'=0.5179	R6	94	R14	98
Color Rendering Index (CRI)	95.5	R7	92	R15	96
R9	73	R8	87	--	--
Rg	101				
Rf	91				
Rcs,h1%	-4				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	647.8
Luminous Efficacy (lm/W)	94.43

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	WFD34-4B	3500K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270116	120.0	60	0.061	6.81	0.937

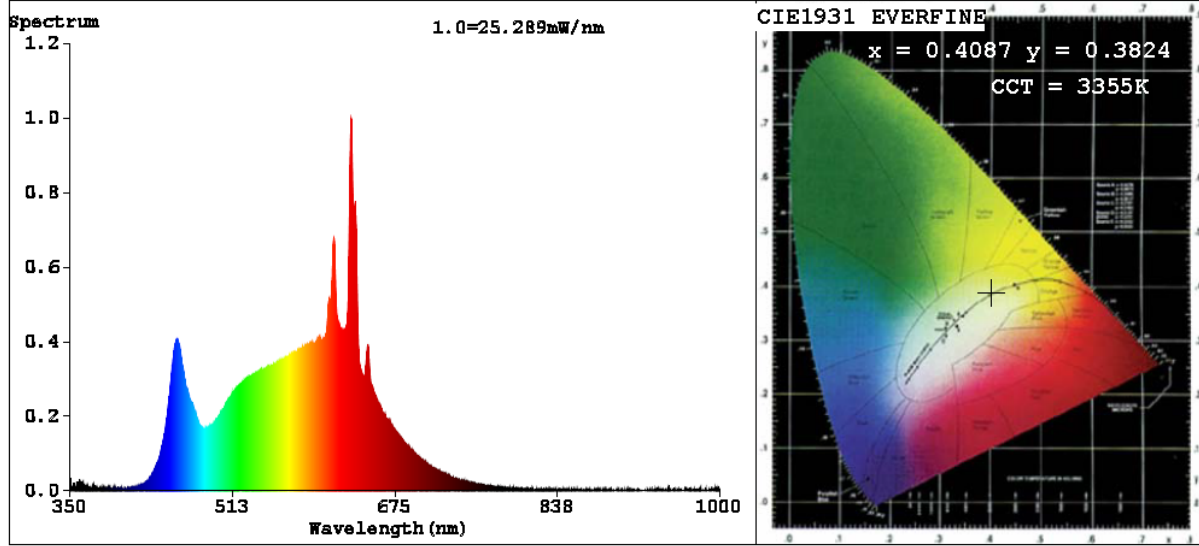
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	84
Frequency (Hz)	60	R2	97	R10	98
CCT (K)	3355	R3	98	R11	98
Duv	-0.0044	R4	98	R12	80
Chromaticity (x, y)	x=0.4087 y=0.3824	R5	97	R13	98
Chromaticity (u', v')	u'=0.2414 v'=0.5083	R6	94	R14	98
Color Rendering Index (CRI)	96.1	R7	94	R15	98
R9	84	R8	92	--	--
Rg	101				
Rf	92				
Rcs,h1%	-3				

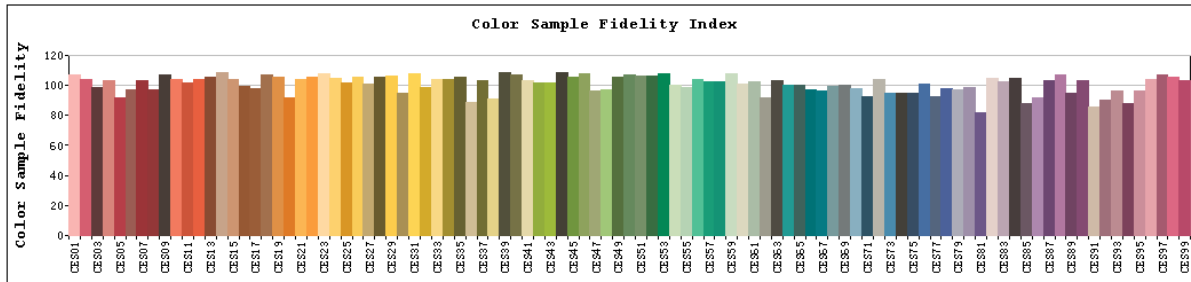
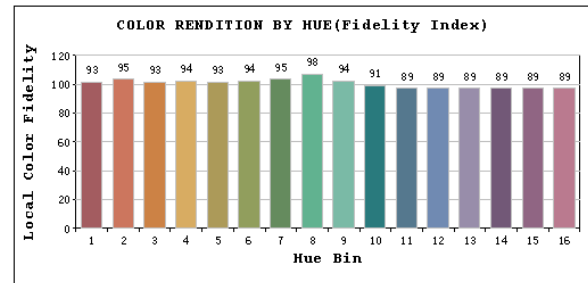
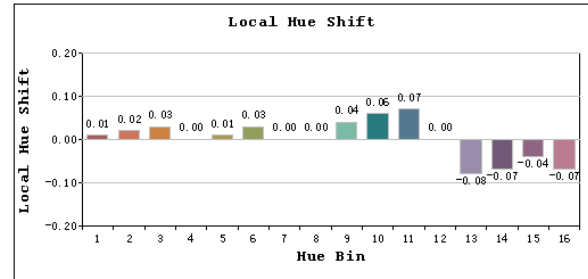
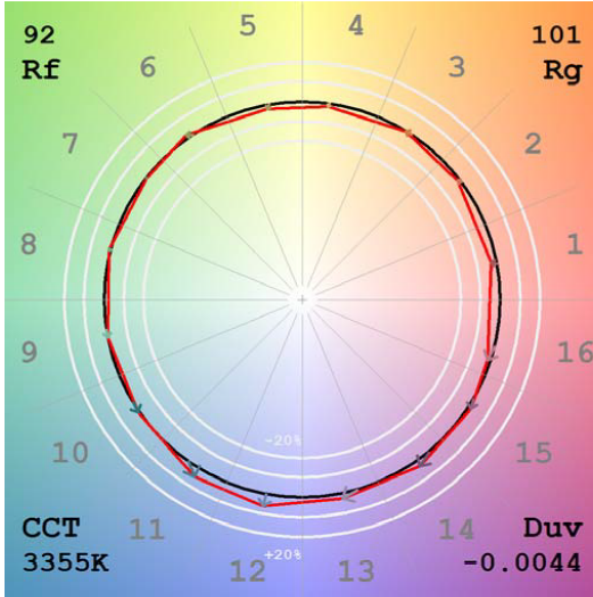
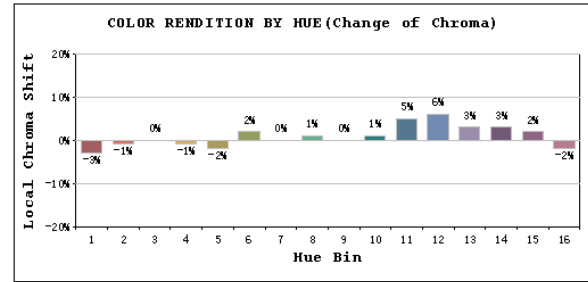
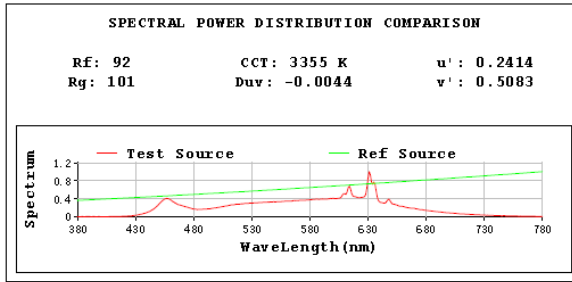
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	668.0
Luminous Efficacy (lm/W)	98.10

Spectral Power Distribution & Chromaticity Diagram



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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	WFD34-4B	4000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270116	120.0	60	0.061	6.85	0.934

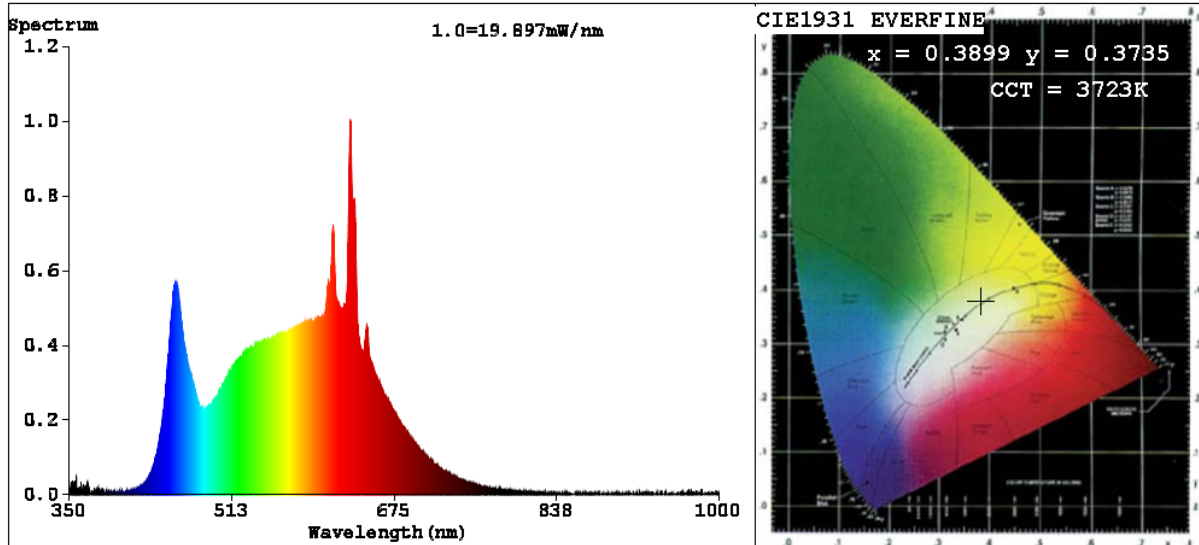
Chromaticity Measurement - Sphere-Spectroradiometer Method:

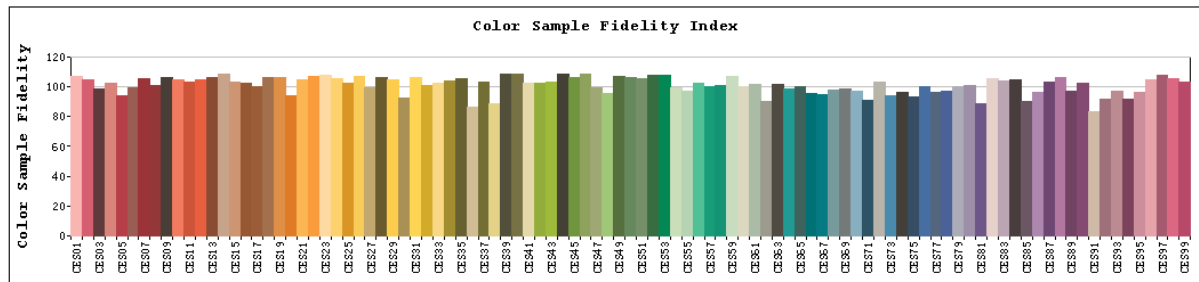
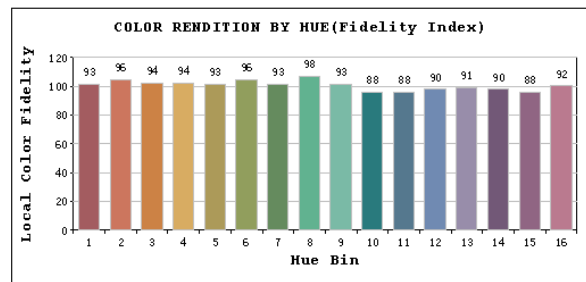
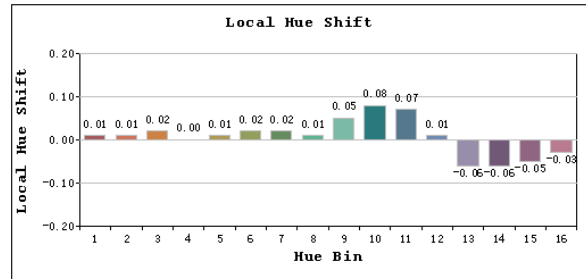
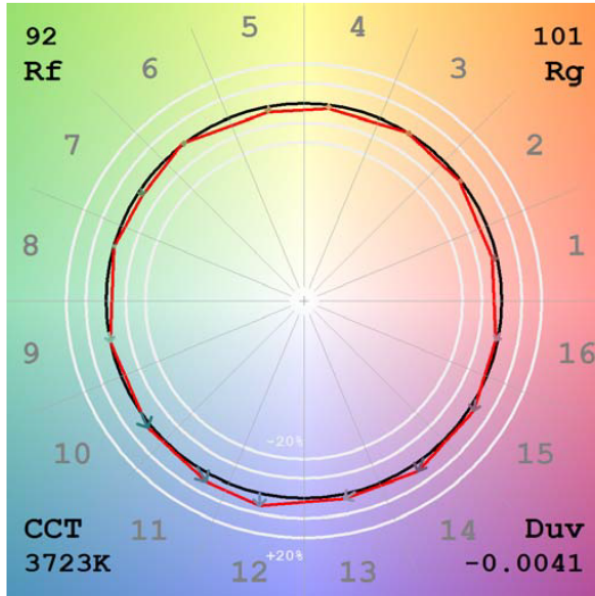
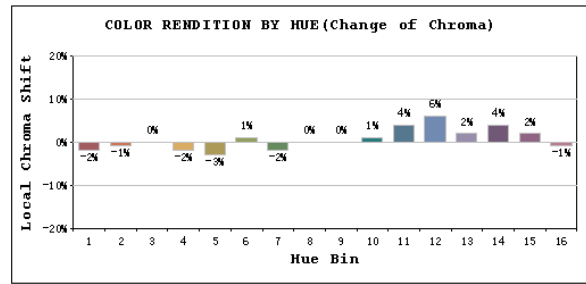
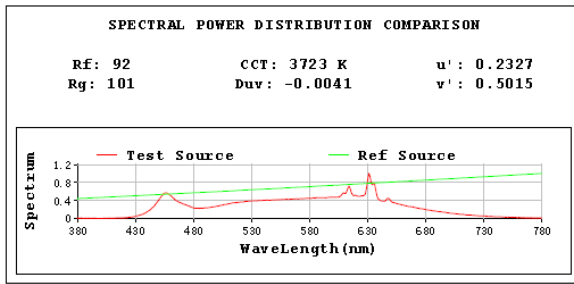
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	90
Frequency (Hz)	60	R2	98	R10	98
CCT (K)	3723	R3	98	R11	98
Duv	-0.0041	R4	98	R12	77
Chromaticity (x, y)	x=0.3899 y=0.3735	R5	97	R13	97
Chromaticity (u', v')	u'=0.2327 v'=0.5015	R6	94	R14	98
Color Rendering Index (CRI)	96.4	R7	95	R15	97
R9	90	R8	94	--	--
Rg	101				
Rf	92				
Rcs,h1%	-2				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	663.3
Luminous Efficacy (lm/W)	96.83

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	WFD34-4B	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202504270116	120.0	60	0.062	6.92	0.928

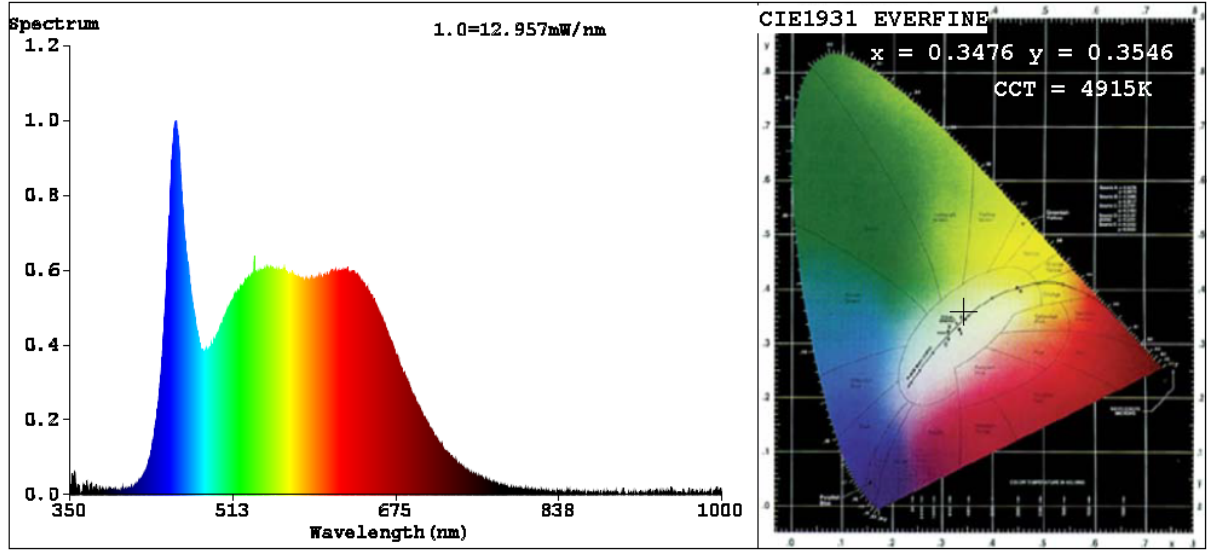
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	89
Frequency (Hz)	60	R2	99	R10	94
CCT (K)	4915	R3	97	R11	94
Duv	0.0005	R4	93	R12	68
Chromaticity (x, y)	x=0.3476 y=0.3546	R5	94	R13	98
Chromaticity (u', v')	u'=0.2119 v'=0.4865	R6	94	R14	98
Color Rendering Index (CRI)	95.4	R7	95	R15	95
R9	89	R8	94	--	--
Rg	100				
Rf	93				
Rcs,h1%	-2				

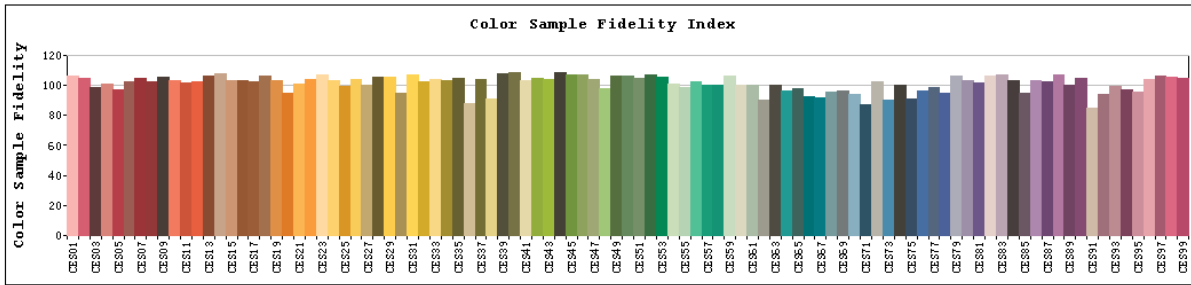
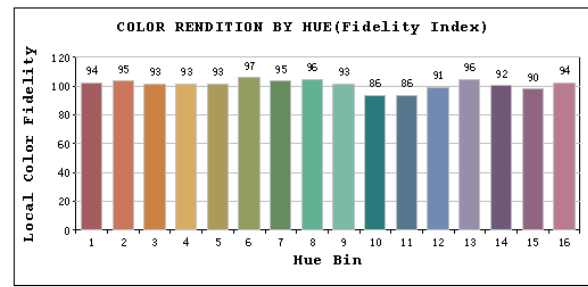
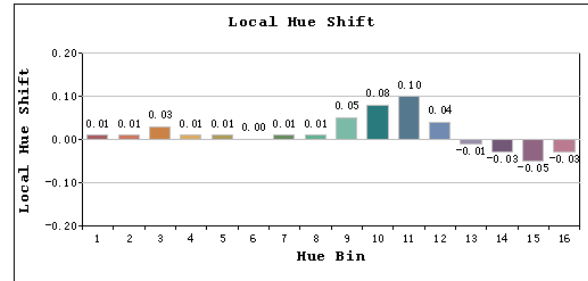
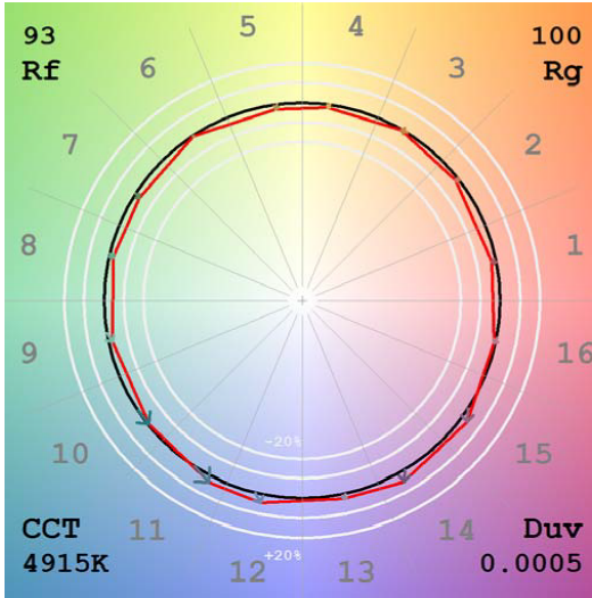
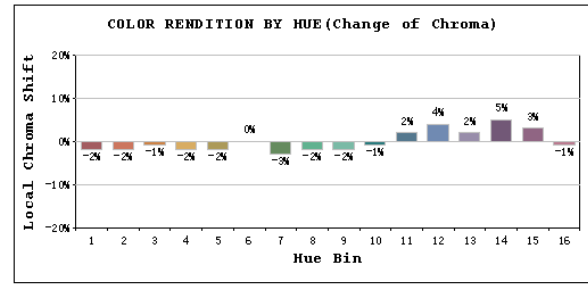
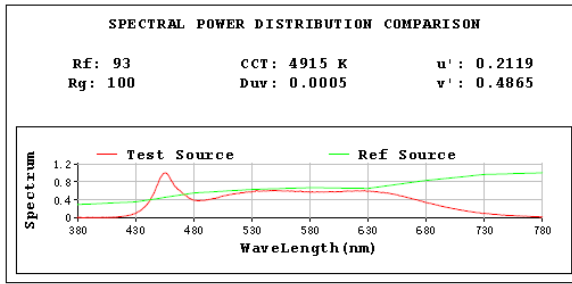
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	603.0
Luminous Efficacy (lm/W)	87.13

Spectral Power Distribution & Chromaticity Diagram

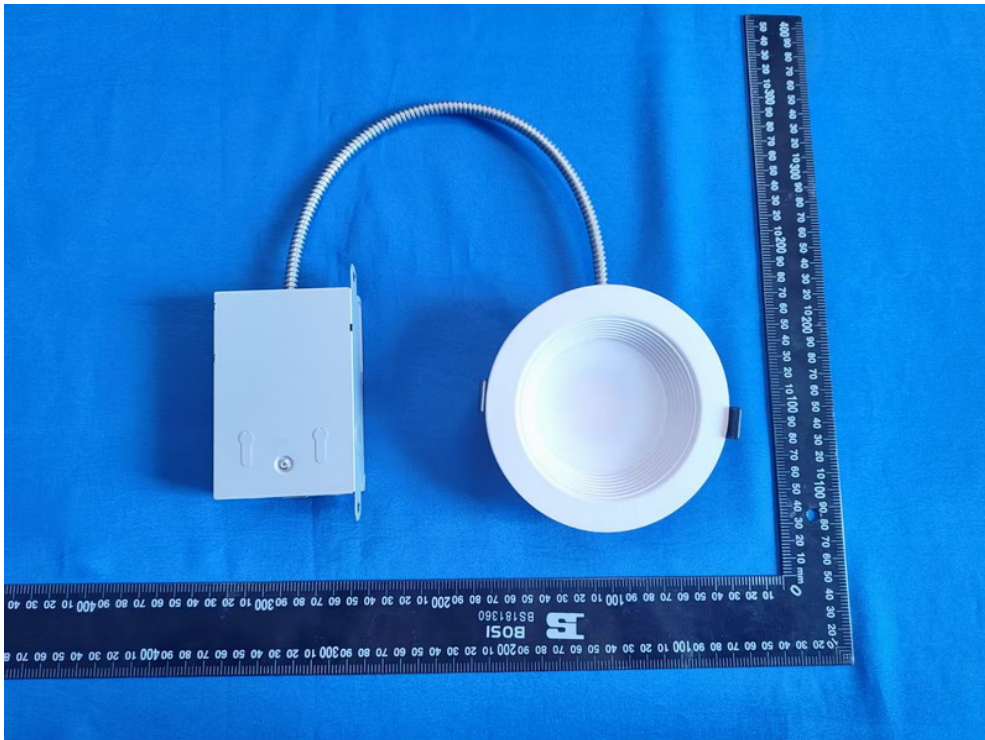
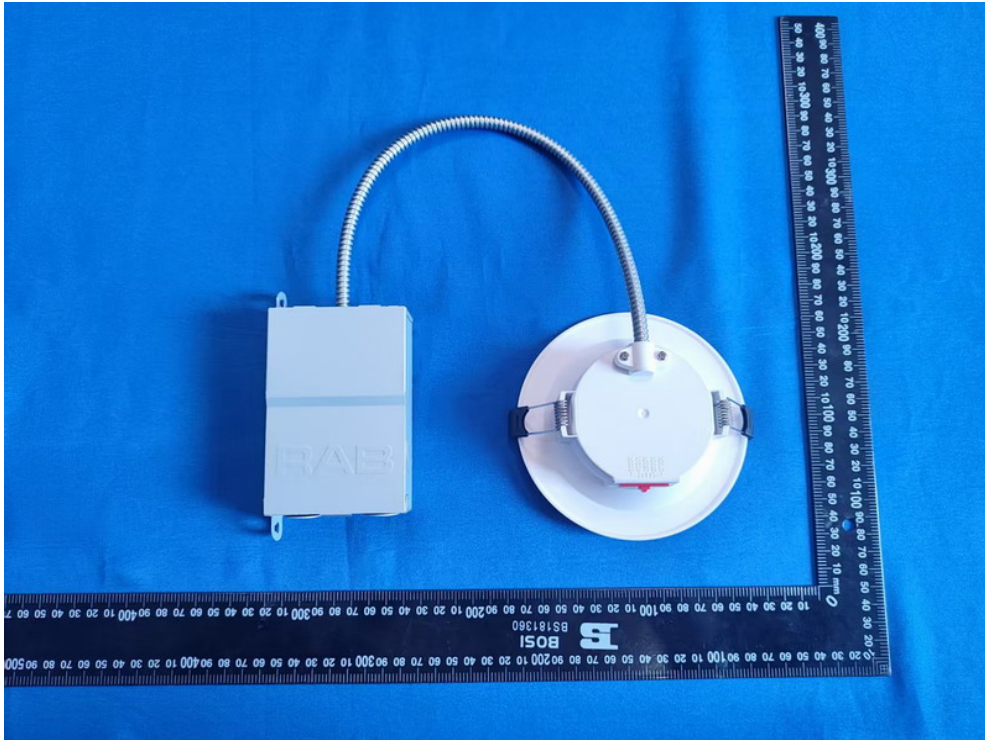


TM30



Sample No.	Wattage and CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
WFD34-4B	2700K setting	120	624.7	6.94	90.02
	3000K setting	120	647.8	6.86	94.43
	3500K setting	120	668.0	6.81	98.10
	4000K setting	120	663.3	6.85	96.83
	5000K setting	120	603.0	6.92	87.13

3. Product Photo



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