

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):
SUMO-R-5/PIR

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

**Type of
Luminaire:** Downlights

Report Date: 2025-11-12

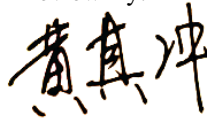
Prepared By:

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	10.0W
Rated Initial Lamp Lumen	820lm (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	2025-11-10	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	SUMO-R-5/PIR	2700K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202511060028	120.0	60	0.091	9.92	0.906

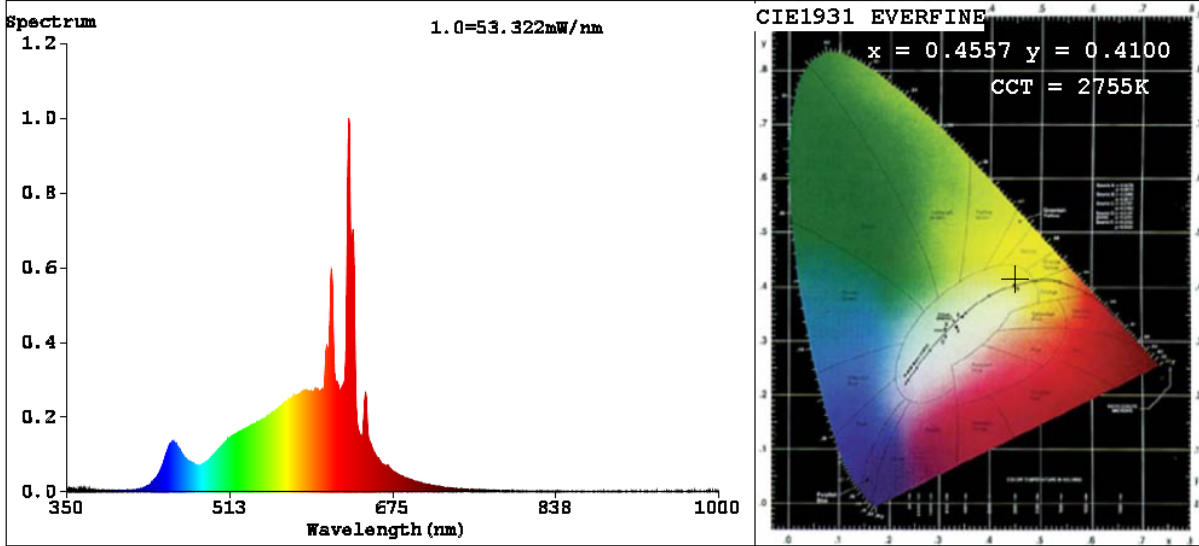
Chromaticity Measurement - Sphere-Spectroradiometer Method:

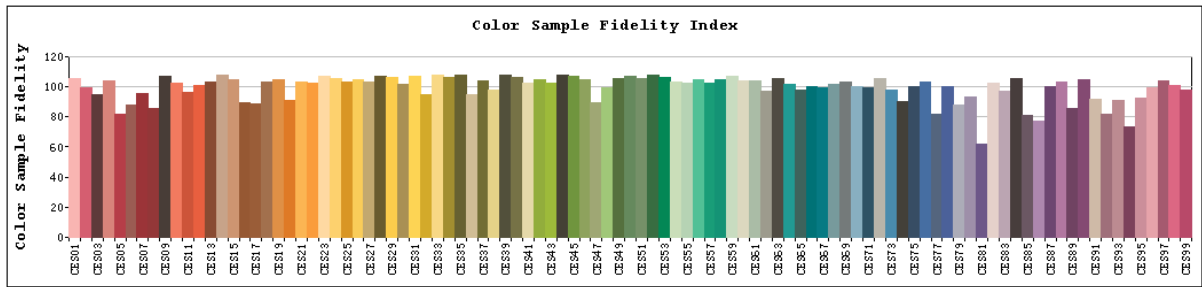
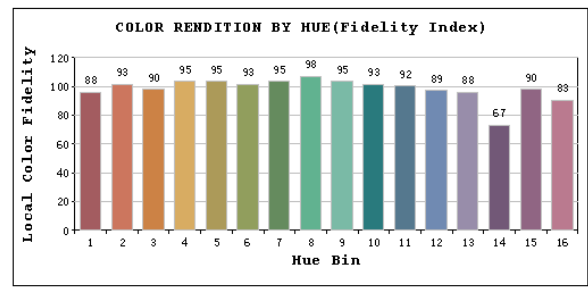
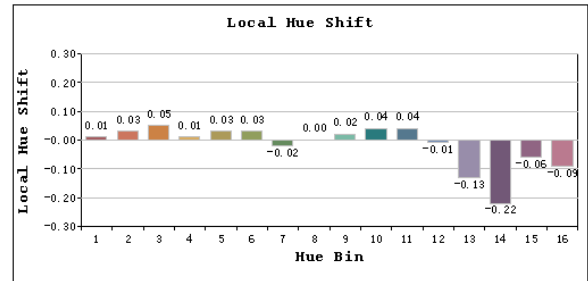
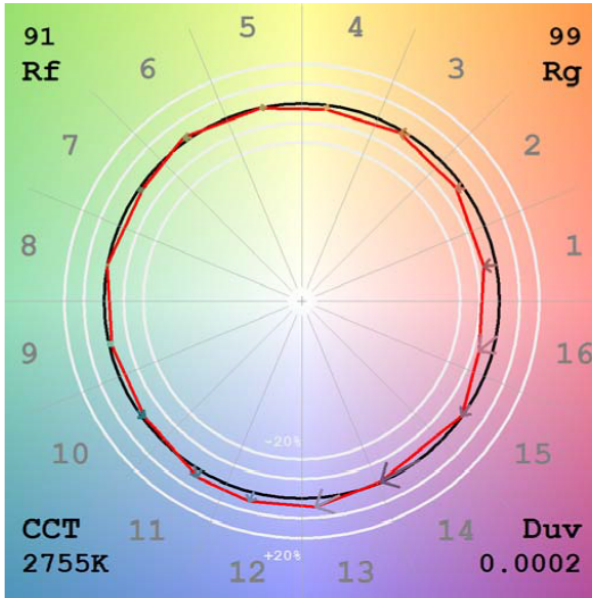
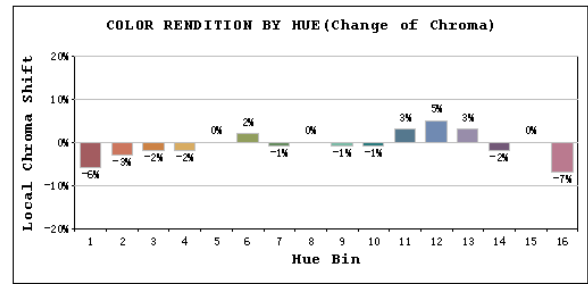
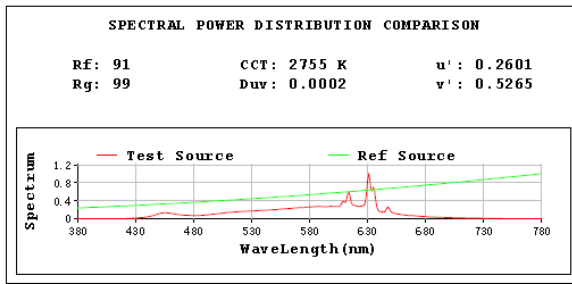
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	95	R9	59
Frequency (Hz)	60	R2	98	R10	93
CCT (K)	2755	R3	99	R11	97
Duv	0.0002	R4	95	R12	84
Chromaticity (x, y)	x=0.4557 y=0.4100	R5	95	R13	96
Chromaticity (u', v')	u'=0.2601 v'=0.5265	R6	97	R14	98
Color Rendering Index (CRI)	93.9	R7	91	R15	90
R9	59	R8	82	--	--
Rg	99				
Rf	91				
Rcs,h1%	-6				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	863.1
Luminous Efficacy (lm/W)	87.01
Beam Angle (°)	112.9
Center Beam Candle Power (cd)	301.3

Spectral Power Distribution & Chromaticity Diagram



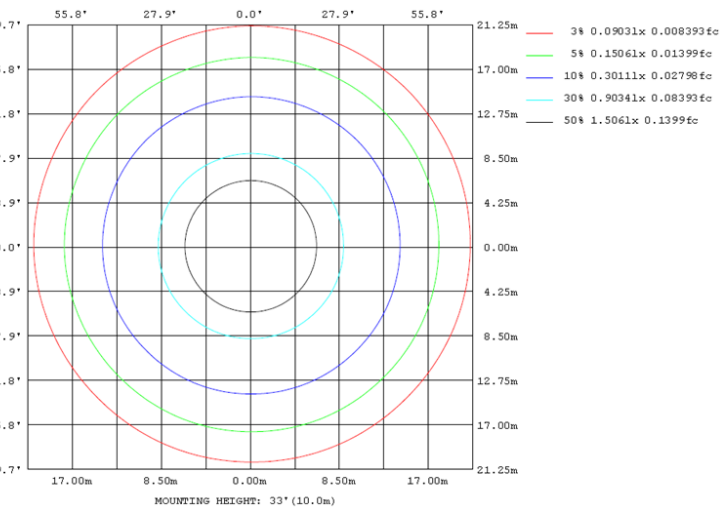
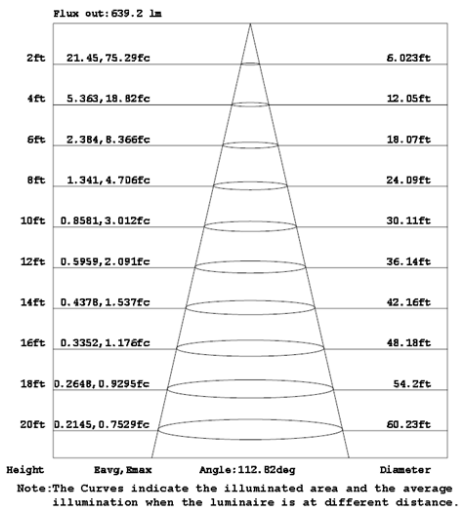
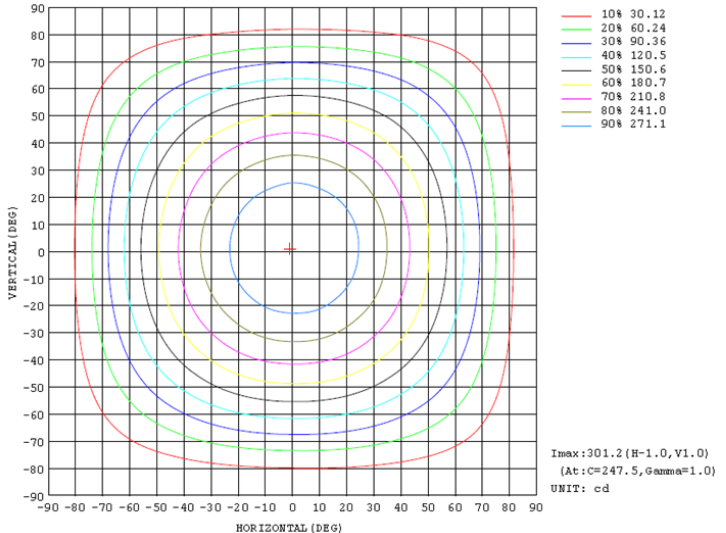
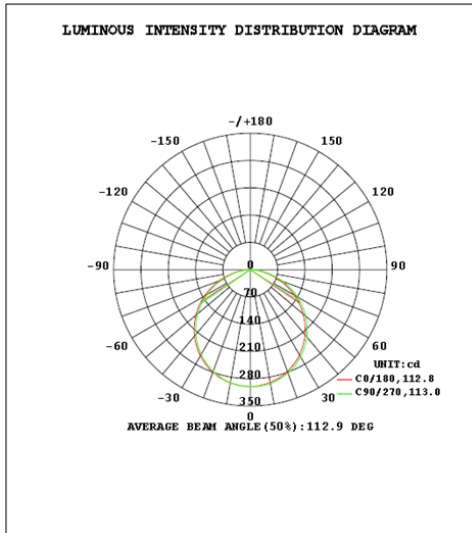


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	233.6	27.1%
0-40	382.9	44.4%
0-60	678.7	78.6%
60-90	184.4	21.4%
70-100	77.1	8.9%
90-120	0.0	0.0%
0-90	863.1	100.0%
90-180	0.0	0.0%
0-180	863.1	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	28.4	3.3%	90-100	0.0	0.0%
10-20	81.5	9.4%	100-110	0.0	0.0%
20-30	123.7	14.3%	110-120	0.0	0.0%
30-40	149.3	17.3%	120-130	0.0	0.0%
40-50	155.2	18.0%	130-140	0.0	0.0%
50-60	140.6	16.3%	140-150	0.0	0.0%
60-70	107.3	12.4%	150-160	0.0	0.0%
70-80	61.2	7.1%	160-170	0.0	0.0%
80-90	16.0	1.9%	170-180	0.0	0.0%

Photometric Data



2.1.2 Electrical, Photometric and Chromaticity Measurements

Test date	2025-11-10	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	SUMO-R-5/PIR	3000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202511060028	120.0	60	0.091	9.95	0.907

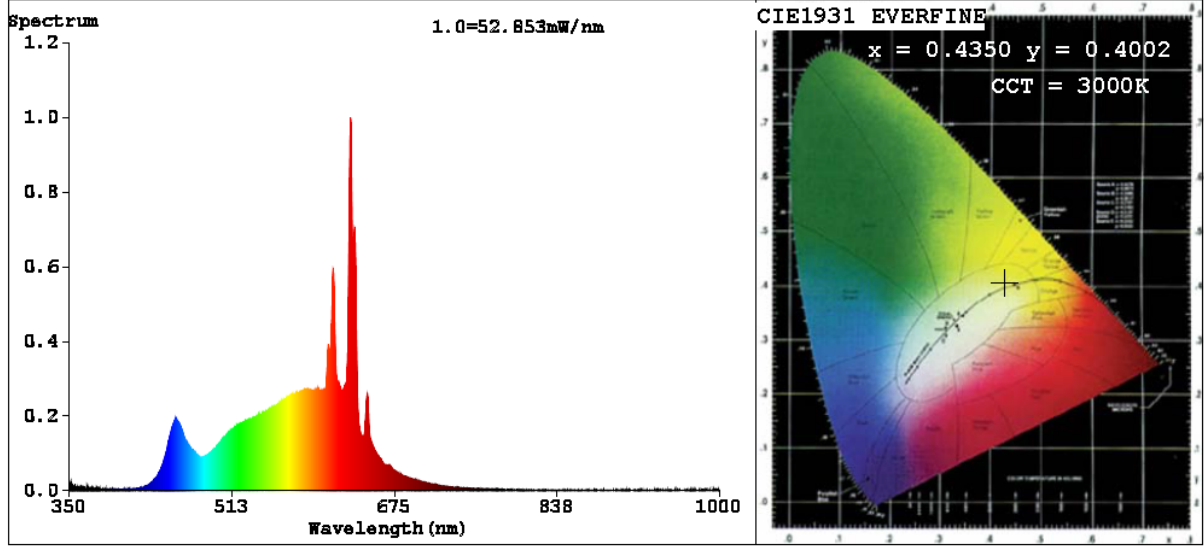
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	69
Frequency (Hz)	60	R2	99	R10	96
CCT (K)	3000	R3	99	R11	98
Duv	-0.0013	R4	97	R12	83
Chromaticity (x, y)	x=0.4350 y=0.4002	R5	97	R13	99
Chromaticity (u', v')	u'=0.2510 v'=0.5196	R6	95	R14	98
Color Rendering Index (CRI)	95.4	R7	92	R15	94
R9	69	R8	86	--	--
Rg	100				
Rf	91				
Rcs,h1%	-5				

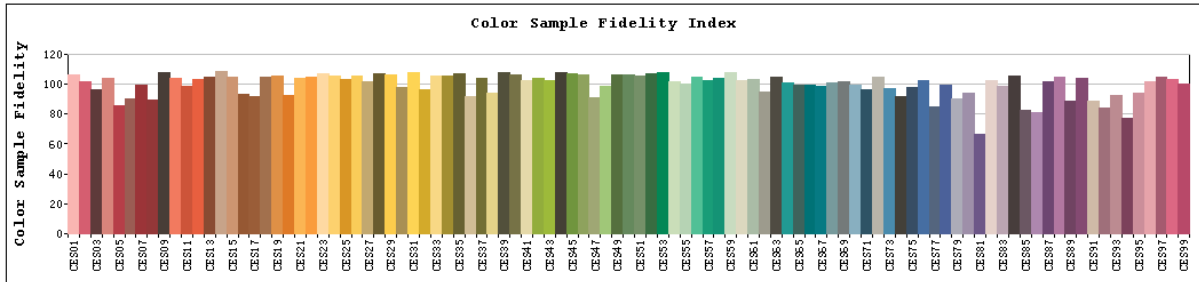
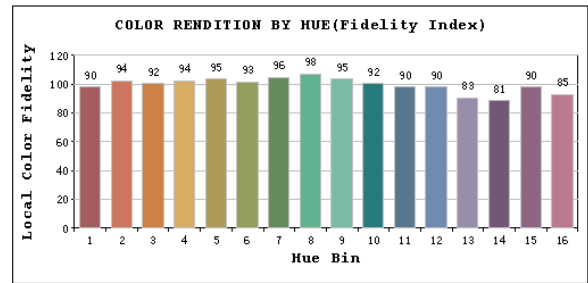
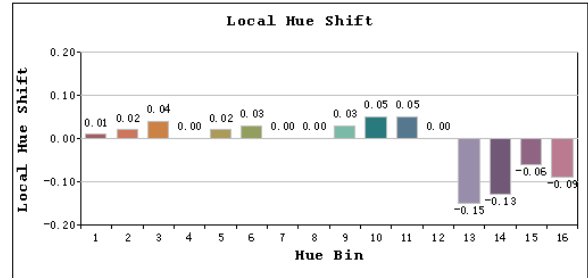
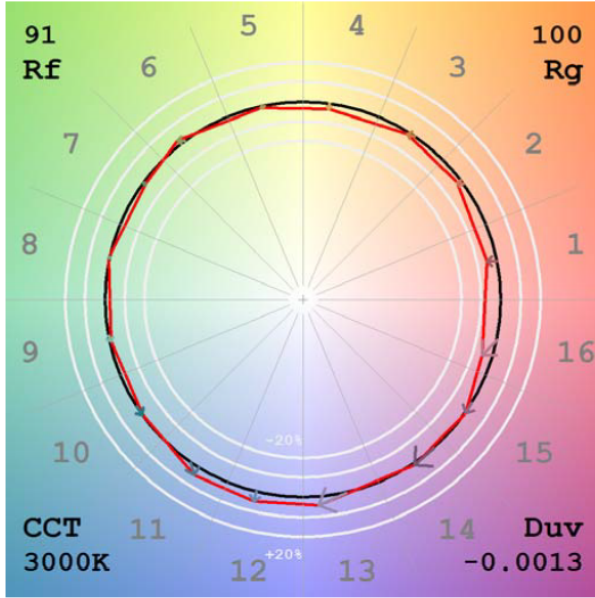
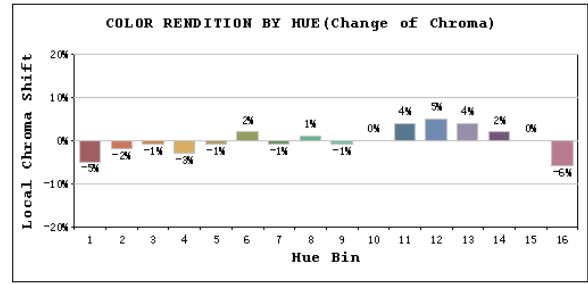
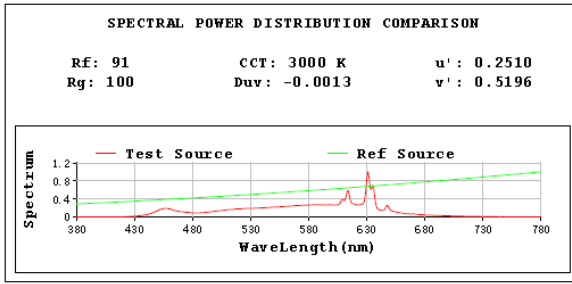
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	896.2
Luminous Efficacy (lm/W)	90.07

Spectral Power Distribution & Chromaticity Diagram



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2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2025-11-10	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	SUMO-R-5/PIR	3500K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202511060028	120.0	60	0.092	10.00	0.911

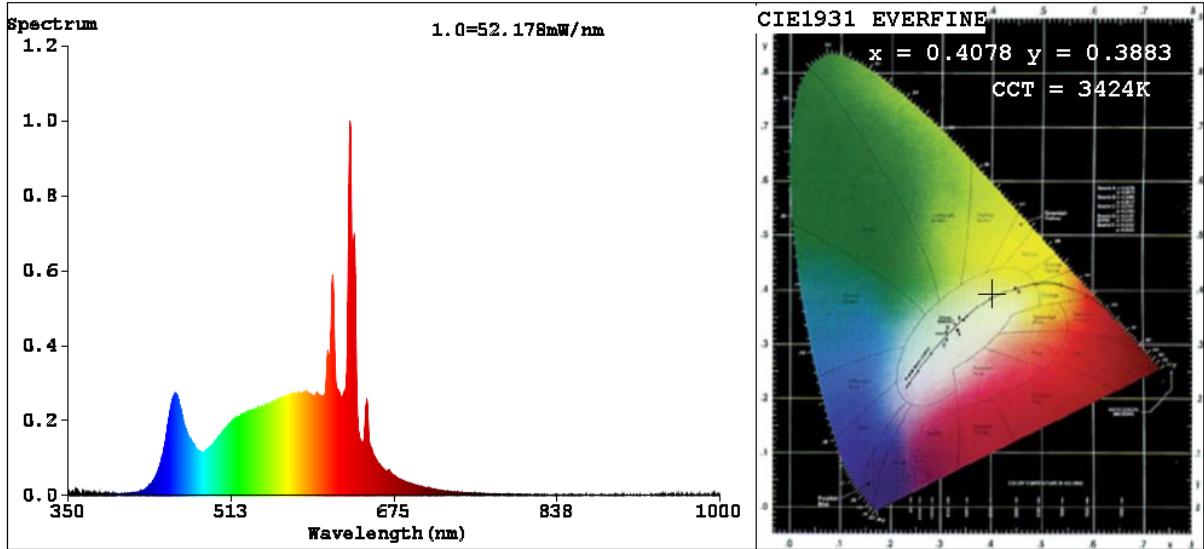
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	99	R9	79
Frequency (Hz)	60	R2	99	R10	98
CCT (K)	3424	R3	98	R11	98
Duv	-0.0016	R4	98	R12	79
Chromaticity (x, y)	x=0.4078 y=0.3883	R5	97	R13	100
Chromaticity (u', v')	u'=0.2384 v'=0.5106	R6	95	R14	98
Color Rendering Index (CRI)	96.4	R7	94	R15	97
R9	79	R8	91	--	--
Rg	100				
Rf	92				
Rcs,h1%	-4				

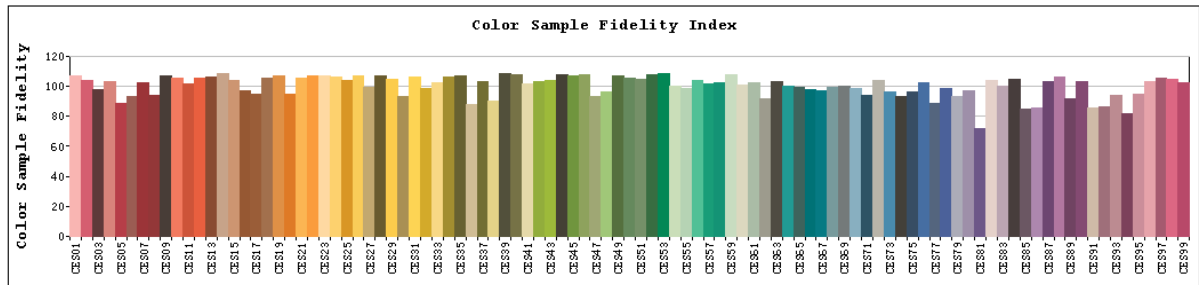
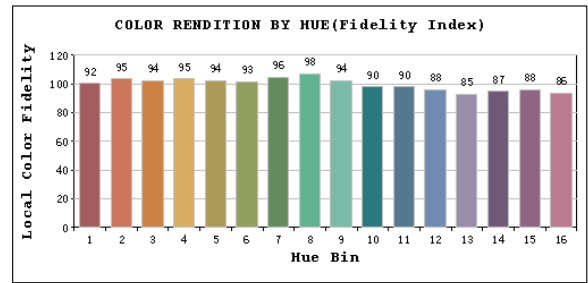
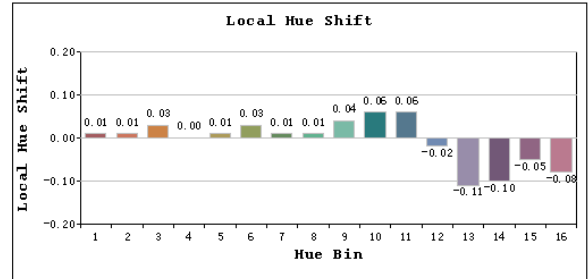
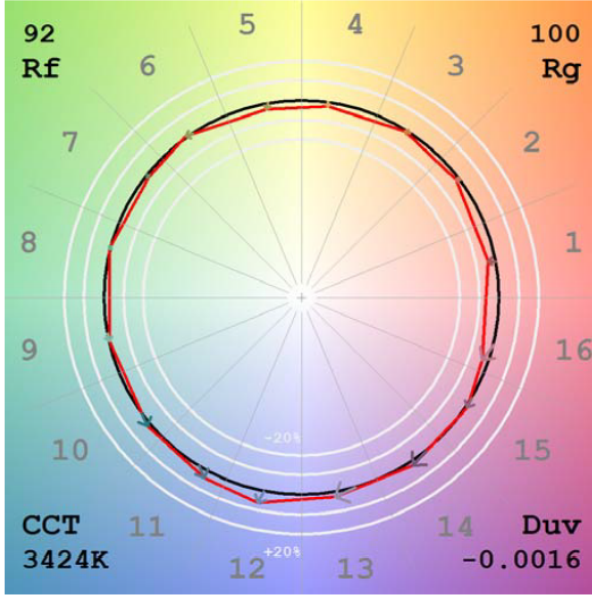
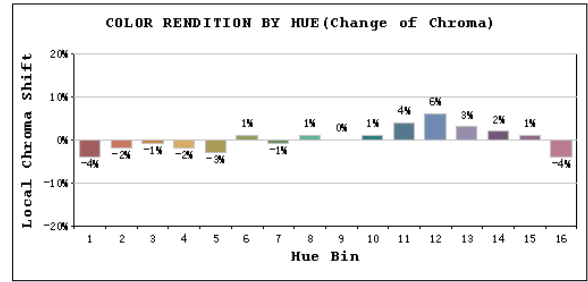
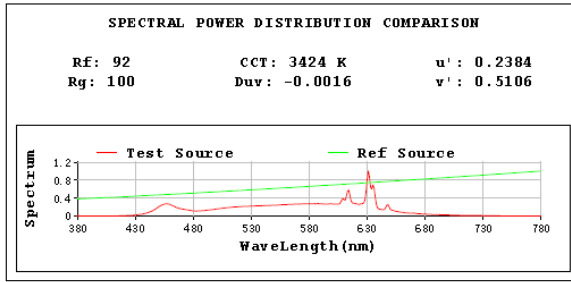
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	946.5
Luminous Efficacy (lm/W)	94.65

Spectral Power Distribution & Chromaticity Diagram



TM30



2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2025-11-10	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	SUMO-R-5/PIR	4000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202511060028	120.0	60	0.092	10.00	0.910

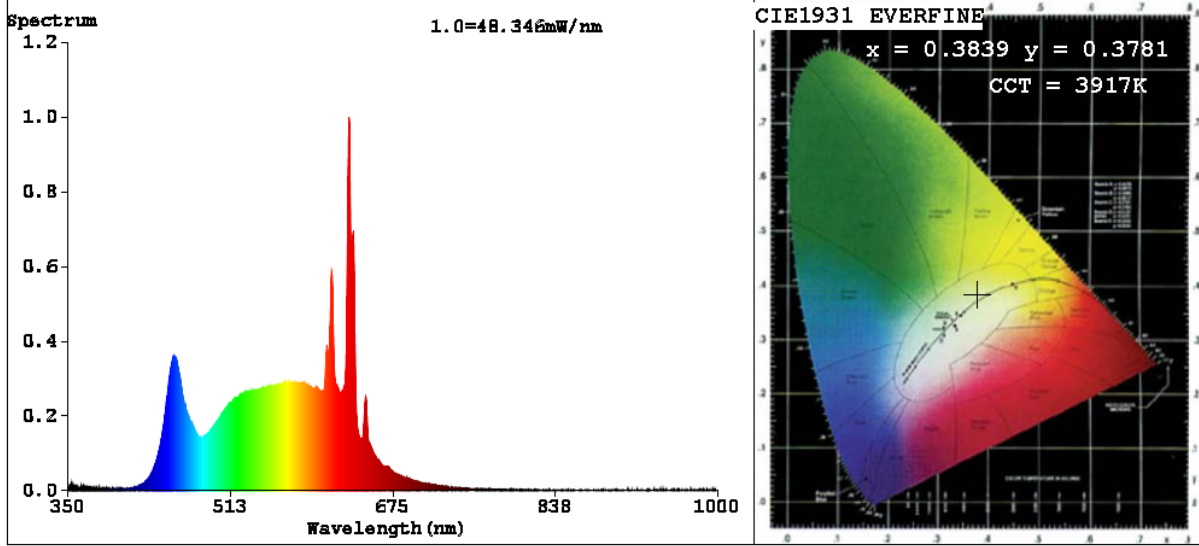
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	99	R9	85
Frequency (Hz)	60	R2	100	R10	96
CCT (K)	3917	R3	97	R11	98
Duv	-0.0004	R4	97	R12	74
Chromaticity (x, y)	x=0.3839 y=0.3781	R5	97	R13	99
Chromaticity (u', v')	u'=0.2269 v'=0.5027	R6	96	R14	97
Color Rendering Index (CRI)	96.7	R7	95	R15	97
R9	85	R8	93	--	--
Rg	100				
Rf	92				
Rcs,h1%	-4				

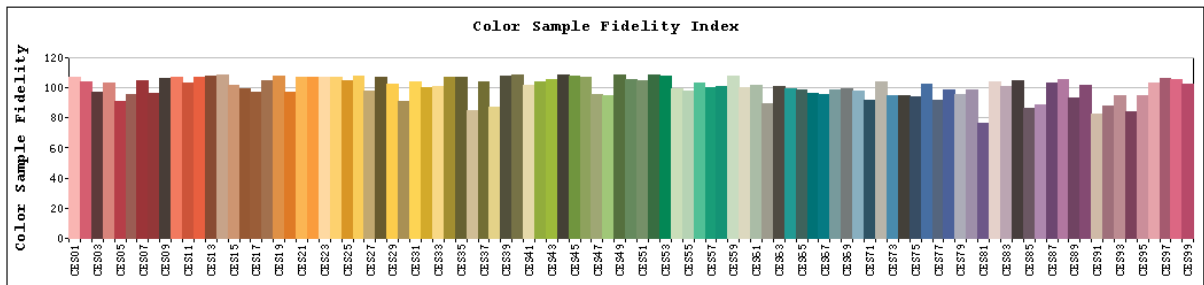
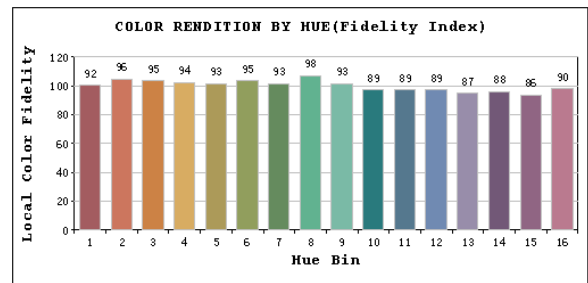
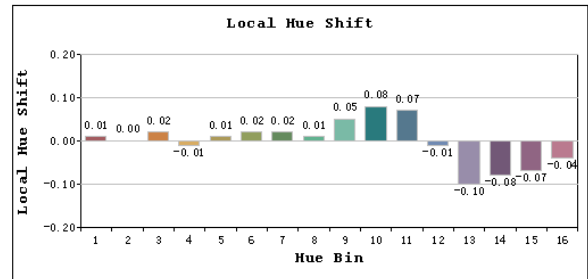
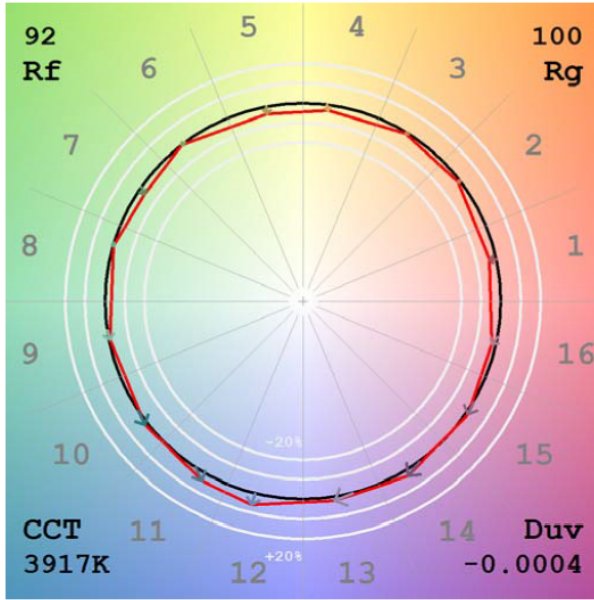
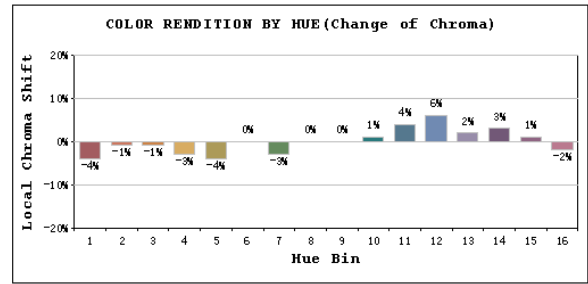
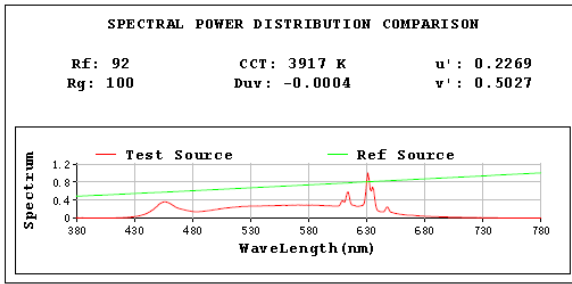
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	957.5
Luminous Efficacy (lm/W)	95.75

Spectral Power Distribution & Chromaticity Diagram



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2.1.5 Electrical, Photometric and Chromaticity Measurements

Test date	2025-11-10	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	SUMO-R-5/PIR	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202511060028	120.0	60	0.091	9.96	0.907

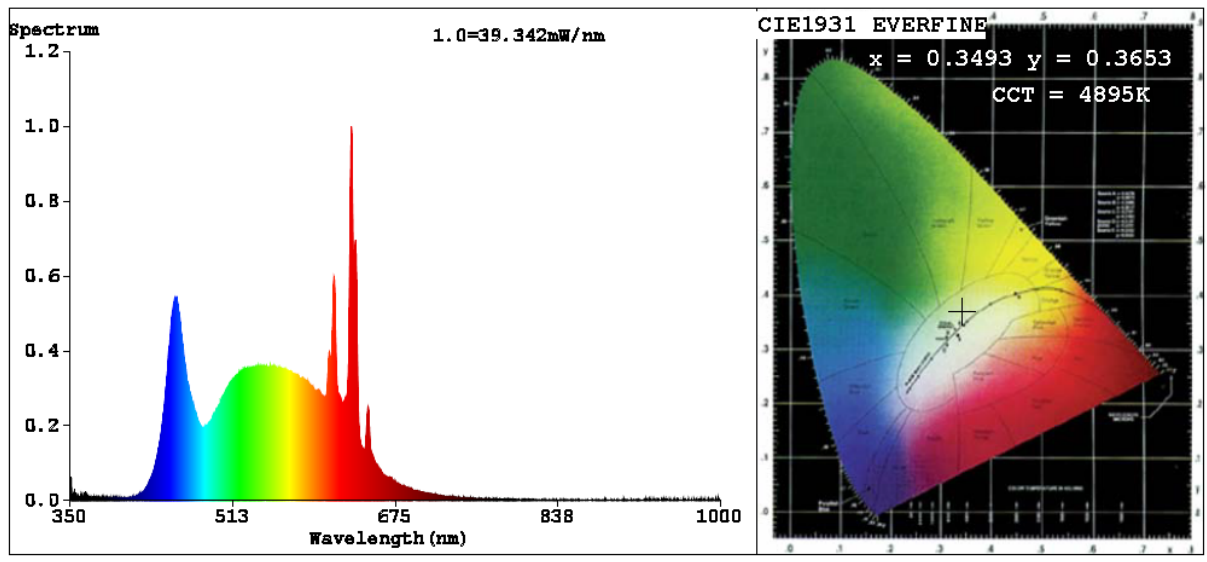
Chromaticity Measurement - Sphere-Spectroradiometer Method:

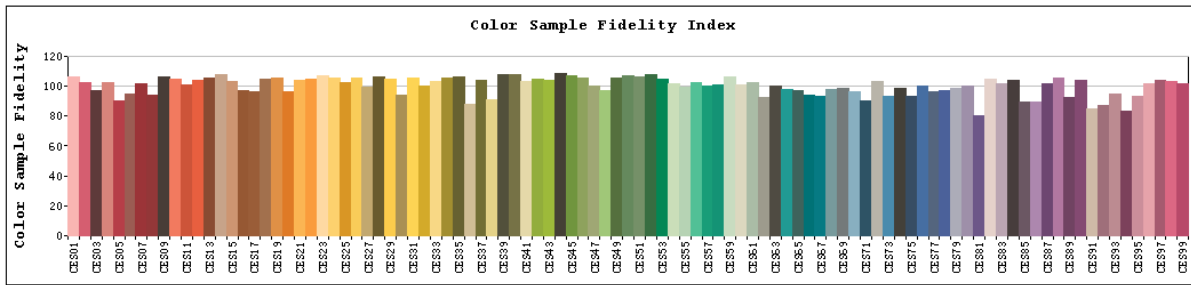
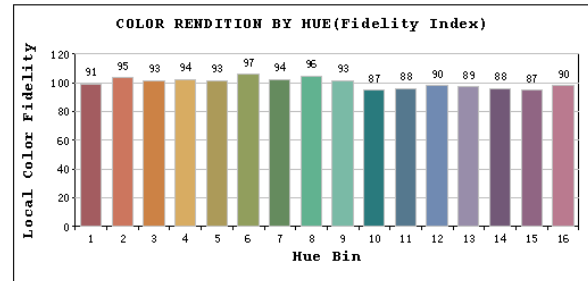
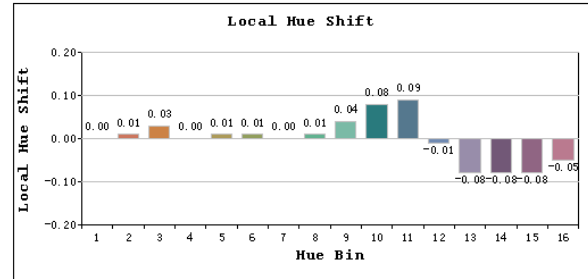
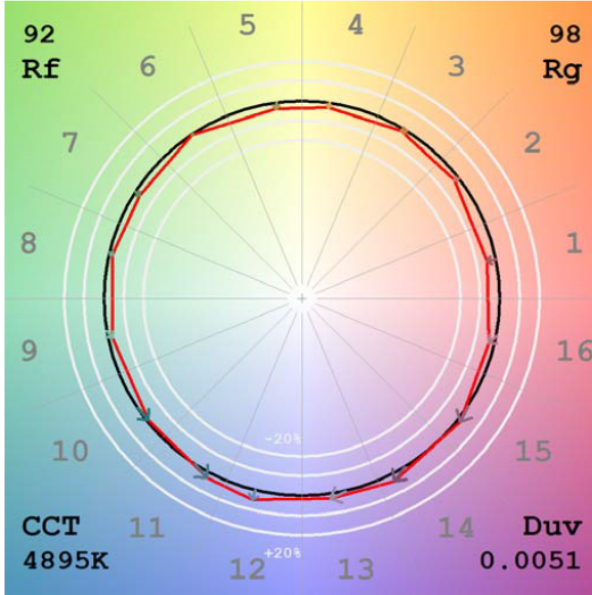
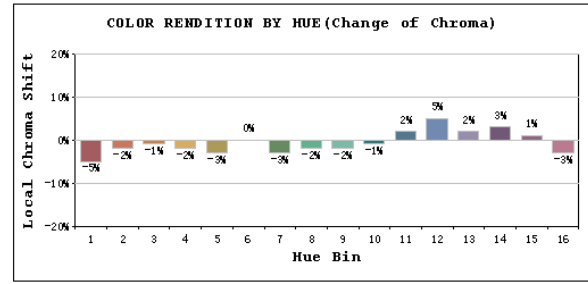
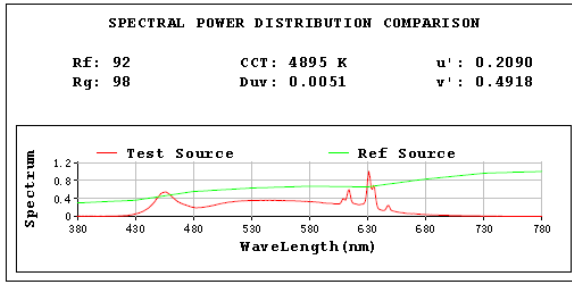
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	95	R9	77
Frequency (Hz)	60	R2	96	R10	88
CCT (K)	4989	R3	95	R11	93
Duv	-0.0051	R4	93	R12	65
Chromaticity (x, y)	x=0.3493 y=0.3653	R5	92	R13	95
Chromaticity (u', v')	u'=0.2090 v'=0.4918	R6	94	R14	97
Color Rendering Index (CRI)	94.0	R7	96	R15	92
R9	77	R8	91	--	--
Rg	98				
Rf	92				
Rcs,h1%	-5				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	937.9
Luminous Efficacy (lm/W)	94.16

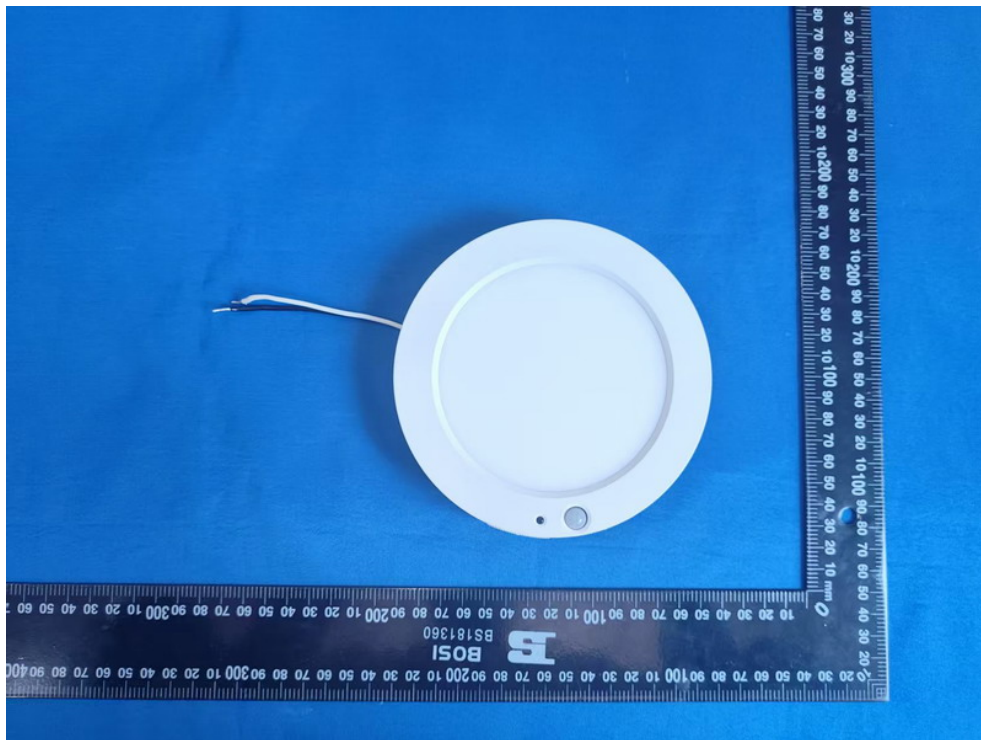
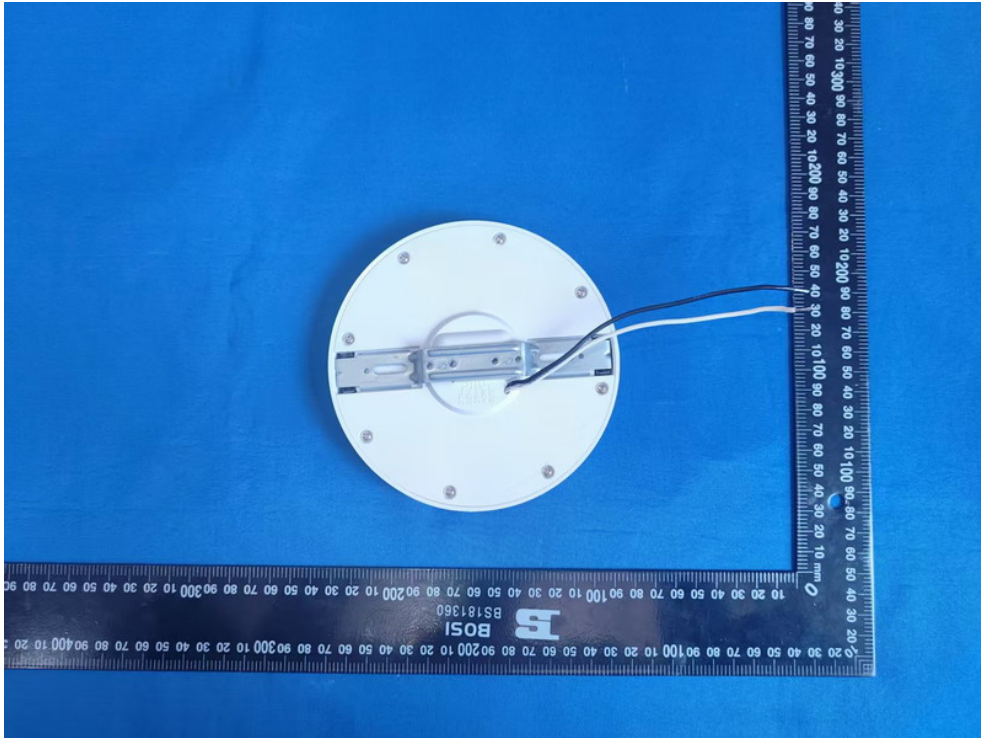
Spectral Power Distribution & Chromaticity Diagram





Sample No.	Wattage and CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
SUMO-R-5/PIR	2700K setting	120	863.1	9.92	87.01
	3000K setting	120	896.2	9.95	90.07
	3500K setting	120	946.5	10.00	94.65
	4000K setting	120	957.5	10.00	95.75
	5000K setting	120	937.9	9.96	94.16

3. Product Photo



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