

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):
DISK-4/PIR

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

**Type of
Luminaire:** Downlights

Report Date: 2025-10-24

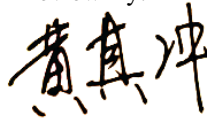
Prepared By:

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	8.0W
Rated Initial Lamp Lumen	700lm (mode2700K)
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	2025-10-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK-4/PIR	2700K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202510180026	120.0	60	0.071	7.72	0.909

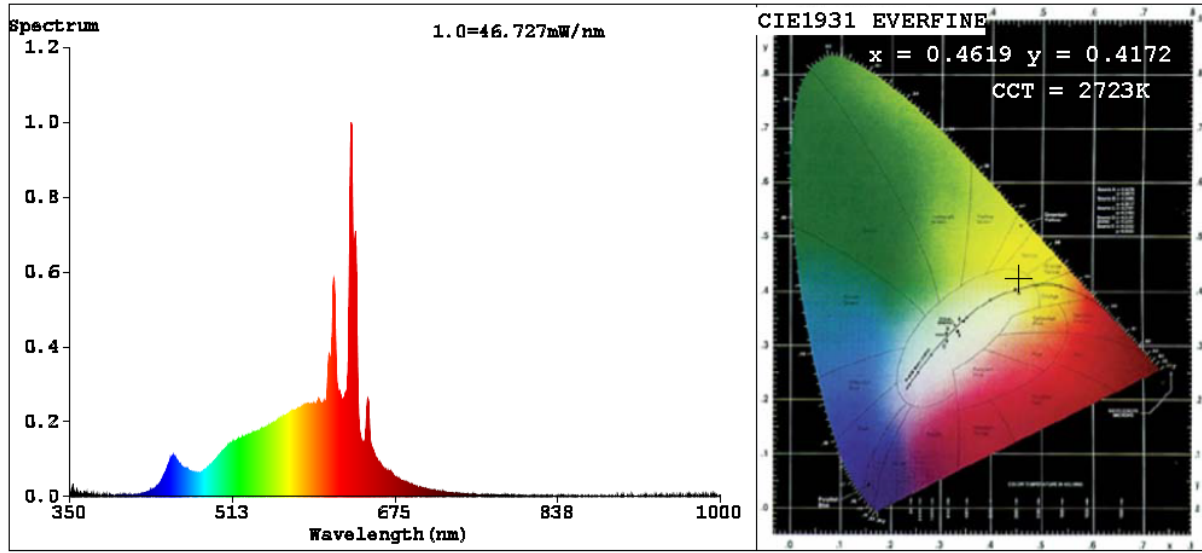
Chromaticity Measurement - Sphere-Spectroradiometer Method:

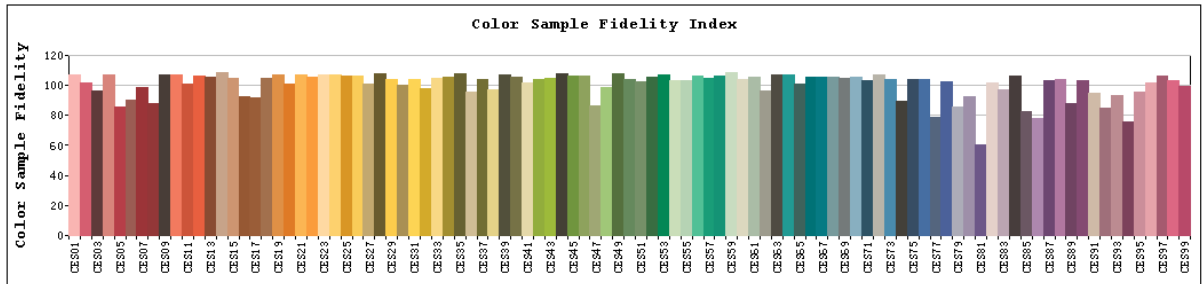
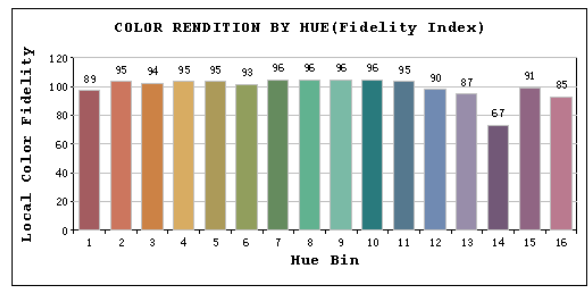
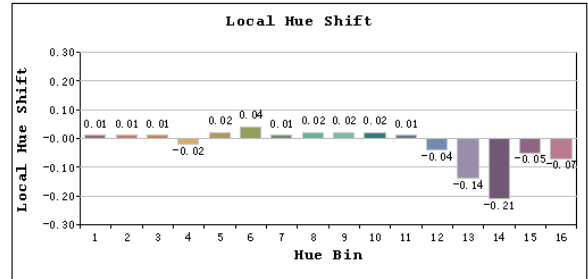
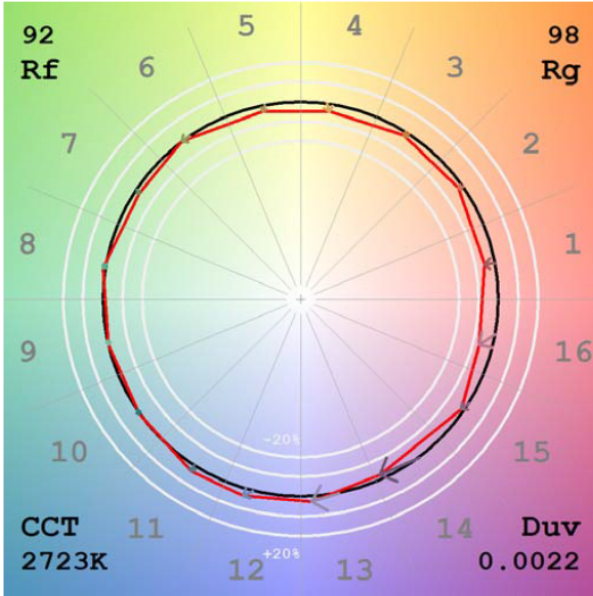
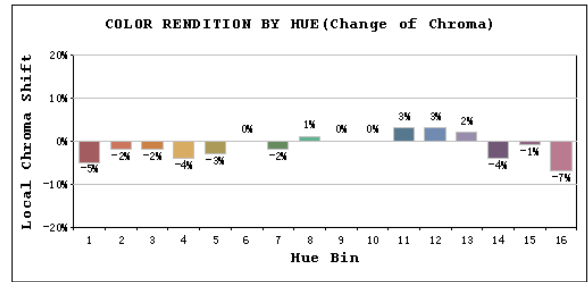
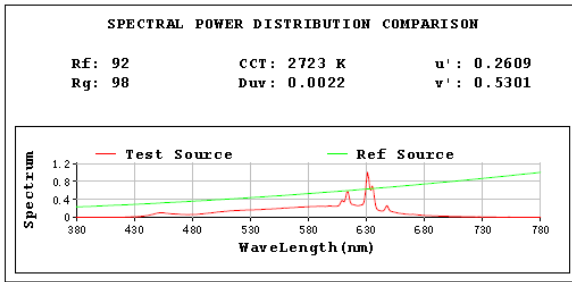
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	66
Frequency (Hz)	60	R2	99	R10	95
CCT (K)	2723	R3	98	R11	98
Duv	0.0022	R4	99	R12	88
Chromaticity (x, y)	x=0.4619 y=0.4172	R5	98	R13	98
Chromaticity (u', v')	u'=0.2609 v'=0.5301	R6	97	R14	97
Color Rendering Index (CRI)	95.8	R7	93	R15	92
R9	66	R8	86	--	--
Rg	98				
Rf	92				
Rcs,h1%	-5				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	722.4
Luminous Efficacy (lm/W)	93.57
Beam Angle (°)	111.5
Center Beam Candle Power (cd)	241.1

Spectral Power Distribution & Chromaticity Diagram





Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	184.7	25.6%
0-40	301.3	41.7%
0-60	531.4	73.6%
60-90	170.7	23.6%
70-100	92.7	12.8%
90-120	12.2	1.7%
0-90	702.1	97.2%
90-180	20.3	2.8%
0-180	722.4	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	22.7	3.1%	90-100	8.6	1.2%
10-20	64.7	9.0%	100-110	2.1	0.3%
20-30	97.4	13.5%	110-120	1.5	0.2%
30-40	116.6	16.1%	120-130	1.8	0.3%
40-50	120.5	16.7%	130-140	2.2	0.3%
50-60	109.6	15.2%	140-150	2.0	0.3%
60-70	86.6	12.0%	150-160	1.3	0.2%
70-80	56.5	7.8%	160-170	0.7	0.1%
80-90	27.6	3.8%	170-180	0.2	0.0%

Photometric Data

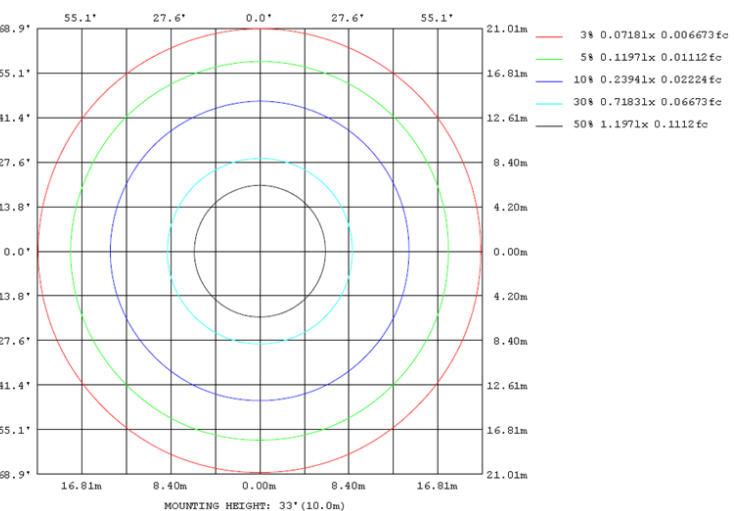
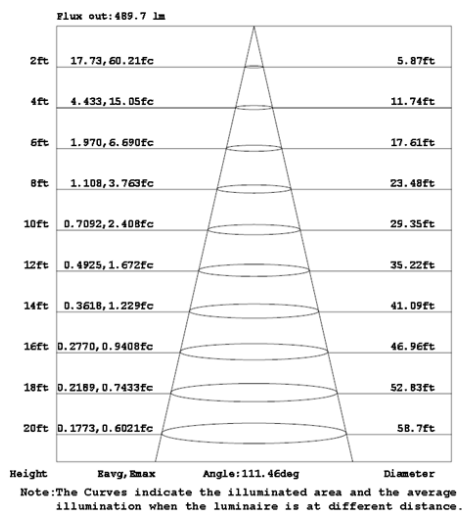
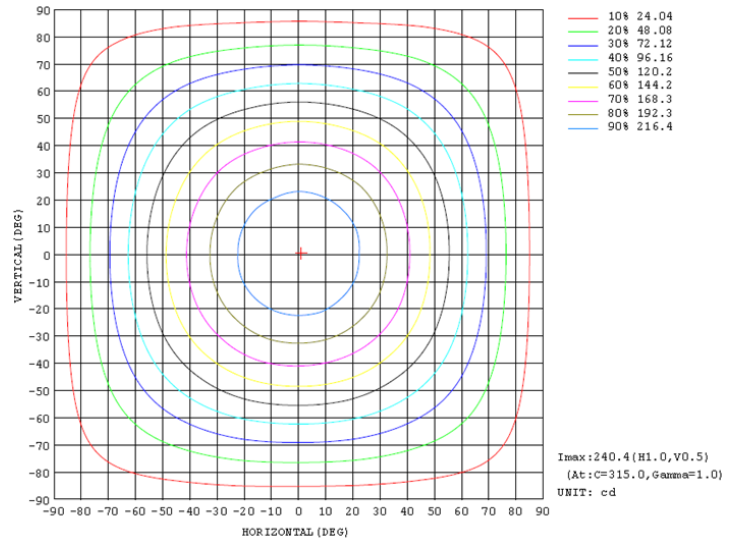
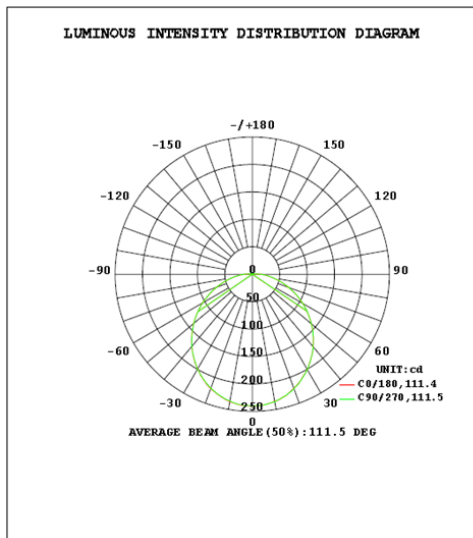


Table--1

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	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240				
5	239	239	239	239	238	238	239	238	239	240	239	238	239	238	240	238				
10	236	237	235	235	234	234	236	234	235	236	235	234	236	234	235	234				
15	229	230	230	229	229	229	229	229	230	230	230	229	229	229	231	229				
20	221	222	221	221	221	220	221	221	222	221	222	220	222	220	223	221				
25	212	211	211	211	211	210	212	210	212	212	212	211	212	211	213	211				
30	200	200	199	199	200	199	200	199	201	200	201	199	200	200	201	200				
35	186	186	186	187	185	186	186	185	186	187	187	185	187	186	188	186				
40	171	171	171	171	171	171	172	171	172	172	173	172	173	172	173	172				
45	156	156	155	156	155	155	156	155	156	156	157	155	157	156	158	156				
50	140	139	138	139	139	139	139	140	140	140	140	140	140	140	141	139				
55	122	123	122	122	122	122	122	122	123	123	124	122	124	123	124	123				
60	104	105	104	105	104	104	105	105	106	105	106	105	106	105	106	106				
65	87.0	87.0	86.4	86.8	86.7	87.2	86.9	87.0	88.3	87.6	88.1	87.4	88.6	87.8	88.8	87.4				
70	69.4	69.7	69.0	69.5	69.2	69.7	69.6	69.7	70.6	69.9	70.5	70.0	70.9	70.5	71.2	70.1				
75	52.6	52.9	52.4	53.0	52.6	53.1	53.0	53.1	53.9	53.3	54.1	53.3	54.4	53.5	54.5	53.4				
80	37.2	37.6	37.2	37.7	37.6	38.1	37.7	37.9	38.4	38.0	38.5	38.2	38.9	38.5	38.9	38.0				
85	24.0	24.4	24.1	24.6	24.5	24.9	24.6	24.7	25.2	24.7	25.3	24.9	25.6	25.0	25.5	24.7				
90	13.9	14.2	14.0	14.5	14.4	14.7	14.3	14.4	14.8	14.3	15.0	14.6	15.2	14.7	15.0	14.5				
95	7.18	7.29	7.15	7.49	7.40	7.48	6.66	6.67	6.90	7.23	7.73	7.56	7.89	7.63	7.81	7.48				
100	3.49	3.46	3.36	3.51	3.49	3.43	2.53	1.55	2.47	3.31	3.64	3.55	3.75	3.69	3.80	3.67				
105	1.88	1.79	1.83	1.76	1.79	1.76	1.55	1.24	1.41	1.81	1.93	1.82	1.86	1.91	2.02	2.01				
110	1.40	1.35	1.42	1.31	1.35	1.38	1.43	1.29	1.32	1.47	1.40	1.33	1.33	1.44	1.55	1.48				
115	1.33	1.44	1.50	1.51	1.54	1.41	1.54	1.45	1.39	1.43	1.35	1.41	1.48	1.43	1.48	1.35				
120	1.58	1.65	1.74	1.92	1.96	1.77	1.66	1.68	1.62	1.52	1.66	1.84	1.86	1.71	1.69	1.57				
125	1.79	1.89	2.10	2.30	2.36	2.15	1.94	1.85	1.87	1.81	2.00	2.24	2.26	2.13	1.94	1.80				
130	1.98	2.20	2.48	2.75	2.84	2.59	2.26	2.04	2.04	2.10	2.39	2.66	2.72	2.52	2.27	2.00				
135	2.11	2.47	2.86	3.24	3.36	3.00	2.57	2.23	1.98	2.38	2.75	3.05	3.15	3.00	2.51	2.13				
140	2.10	2.72	3.33	7.14	4.86	3.76	2.86	2.27	1.88	2.57	3.33	3.87	3.87	5.06	2.63	2.13				
145	2.08	2.87	3.51	4.89	4.24	3.63	3.06	2.15	1.95	2.46	4.50	4.86	3.40	2.77	2.62	2.01				
150	2.10	2.70	5.62	3.86	3.99	5.70	2.77	2.13	2.07	2.10	2.99	3.36	2.74	2.09	2.31	2.05				
155	2.24	2.29	3.19	5.07	6.09	3.52	2.41	2.22	2.21	2.18	2.24	3.10	2.31	2.17	2.19	2.18				
160	2.33	2.33	2.41	3.83	2.92	2.50	2.33	2.32	2.31	2.30	2.31	2.30	2.30	2.29	2.30	2.28				
165	2.43	2.43	2.42	2.43	2.42	2.42	2.43	2.41	2.40	2.40	2.40	2.40	2.41	2.40	2.41	2.38				
170	2.50	2.51	2.51	2.50	2.51	2.50	2.50	2.49	2.48	2.49	2.48	2.48	2.48	2.49	2.47	2.47				
175	2.56	2.56	2.55	2.55	2.56	2.54	2.57	2.56	2.55	2.56	2.55	2.55	2.56	2.55	2.56	2.54				
180	2.60	2.59	2.60	2.58	2.60	2.58	2.60	2.59	2.60	2.60	2.60	2.58	2.59	2.58	2.61	2.60				

2.1.2 Electrical, Photometric and Chromaticity Measurements

Test date	2025-10-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK-4/PIR	3000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202510180026	120.0	60	0.071	7.78	0.911

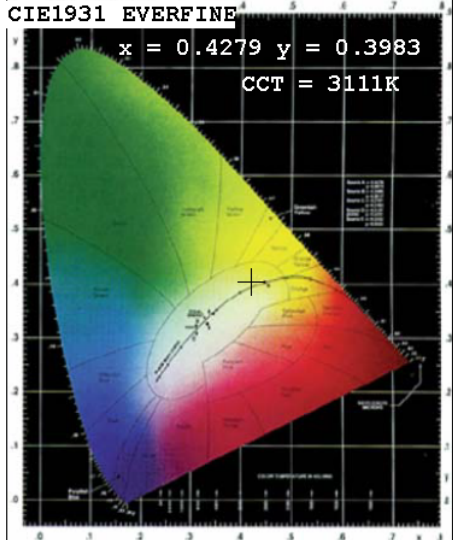
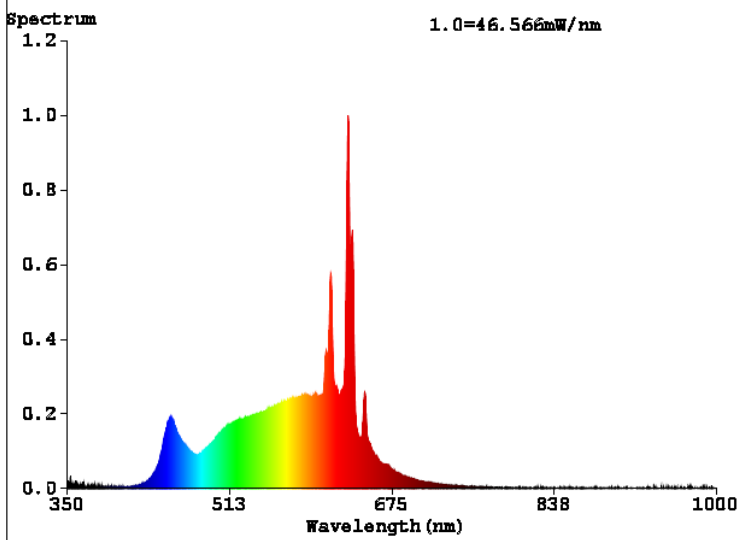
Chromaticity Measurement - Sphere-Spectroradiometer Method:

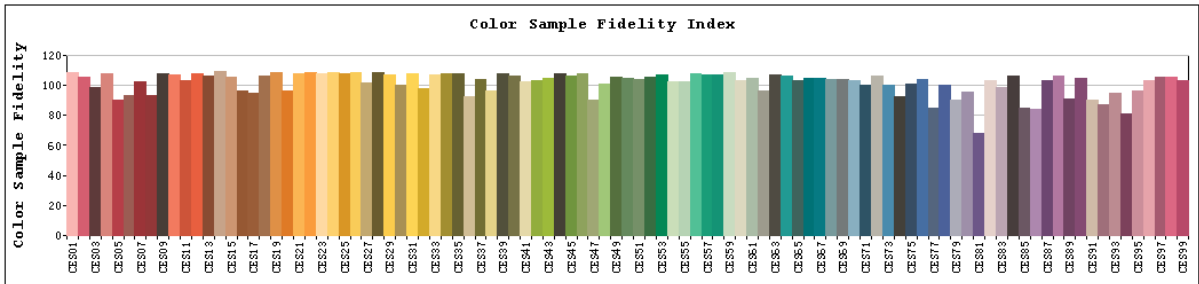
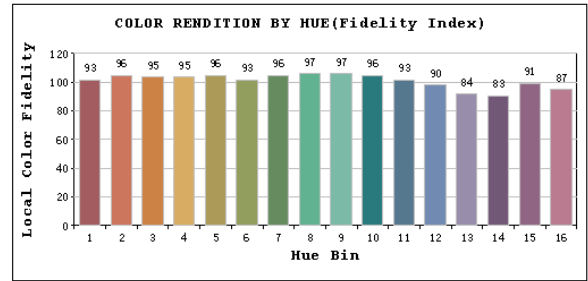
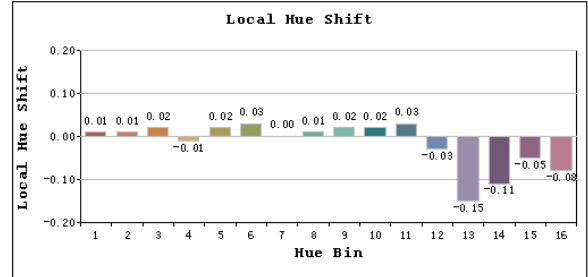
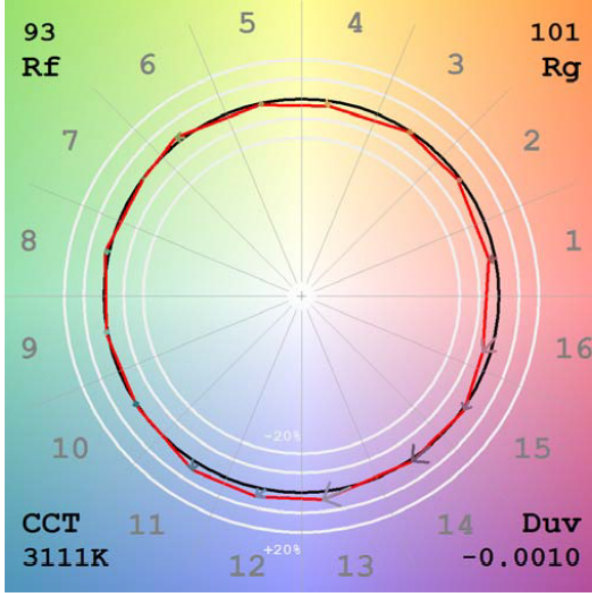
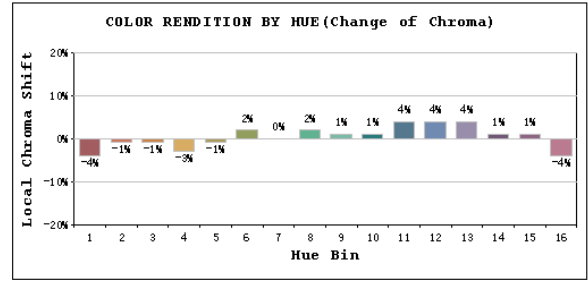
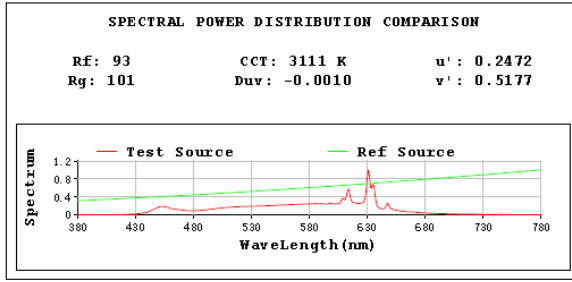
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	99	R9	79
Frequency (Hz)	60	R2	99	R10	99
CCT (K)	3111	R3	98	R11	96
Duv	-0.0010	R4	99	R12	85
Chromaticity (x, y)	x=0.4279 y=0.3983	R5	99	R13	99
Chromaticity (u', v')	u'=0.2472 v'=0.5177	R6	94	R14	98
Color Rendering Index (CRI)	96.8	R7	94	R15	97
R9	79	R8	91	--	--
Rg	101				
Rf	93				
Rcs,h1%	-4				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	760.9
Luminous Efficacy (lm/W)	97.80

Spectral Power Distribution & Chromaticity Diagram





2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2025-10-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK-4/PIR	3500K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202510180026	120.0	60	0.072	7.90	0.915

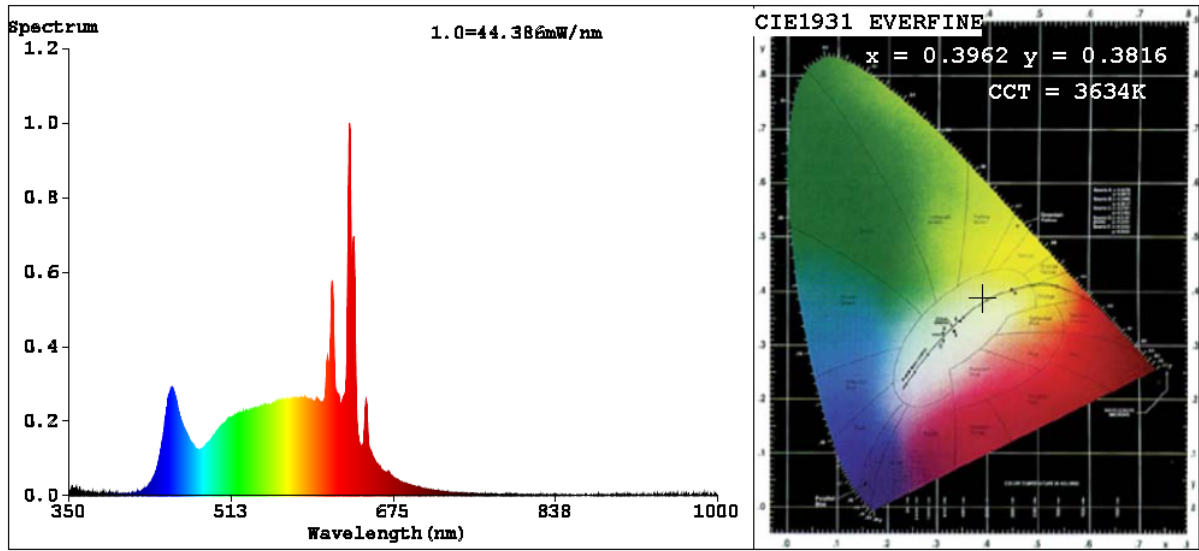
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	89
Frequency (Hz)	60	R2	99	R10	99
CCT (K)	3634	R3	98	R11	95
Duv	-0.0020	R4	99	R12	81
Chromaticity (x, y)	x=0.3962 y=0.3816	R5	98	R13	98
Chromaticity (u', v')	u'=0.2335 v'=0.5060	R6	95	R14	97
Color Rendering Index (CRI)	96.9	R7	96	R15	98
R9	89	R8	95	--	--
Rg	101				
Rf	93				
Rcs,h1%	-2				

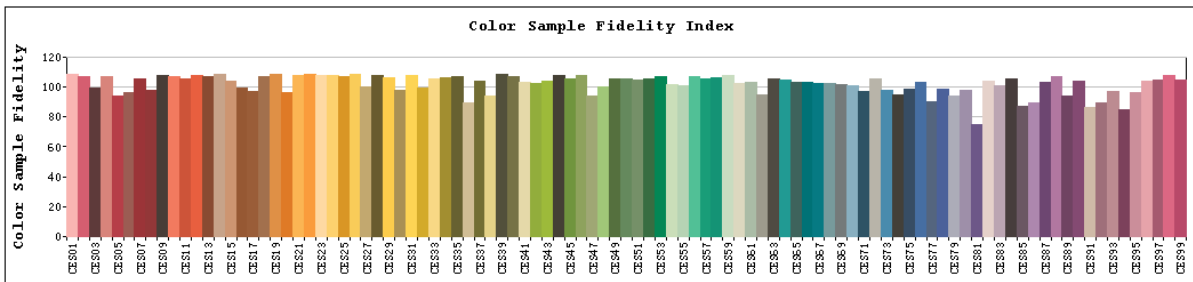
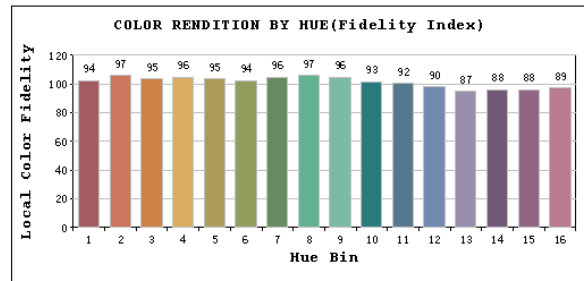
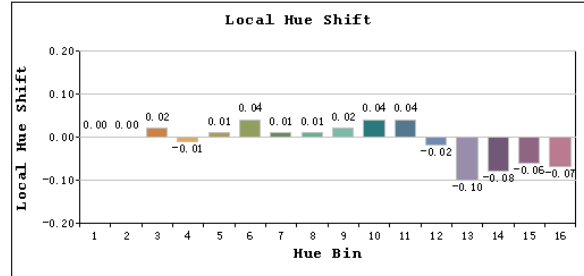
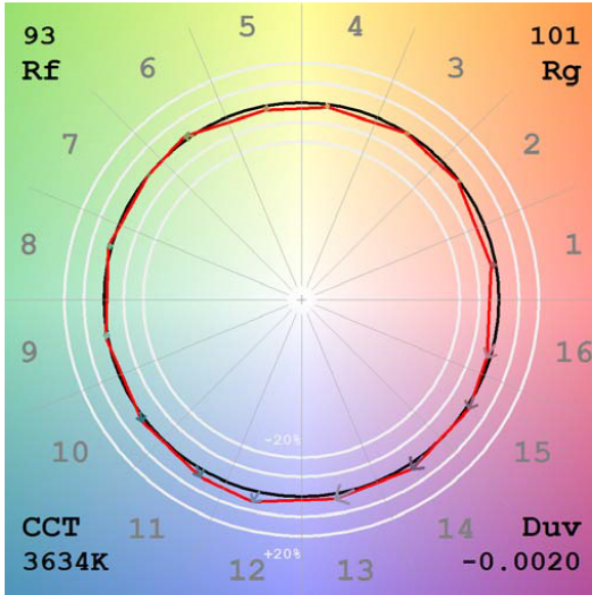
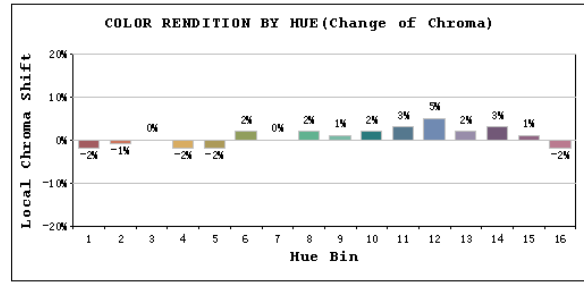
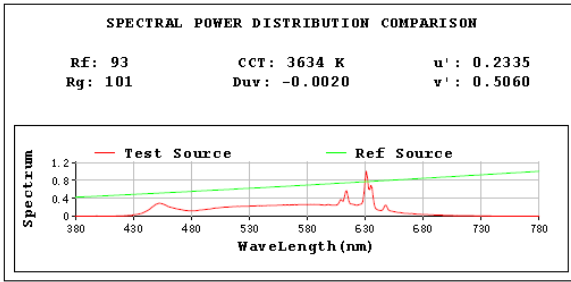
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	795.2
Luminous Efficacy (lm/W)	100.66

Spectral Power Distribution & Chromaticity Diagram



TM30



2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2025-10-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK-4/PIR	4000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202510180026	120.0	60	0.073	7.98	0.913

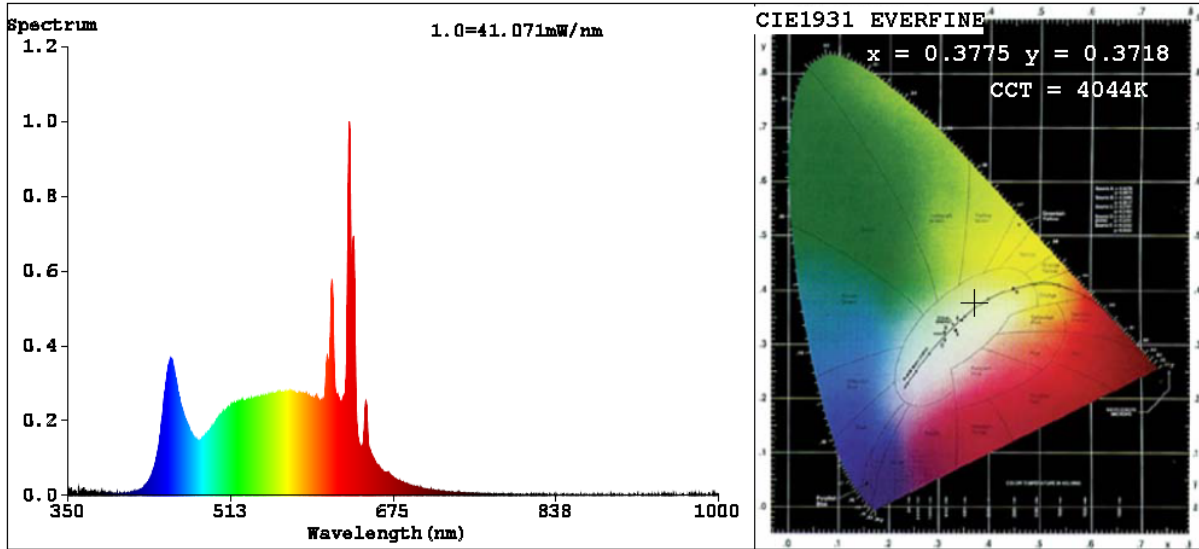
Chromaticity Measurement - Sphere-Spectroradiometer Method:

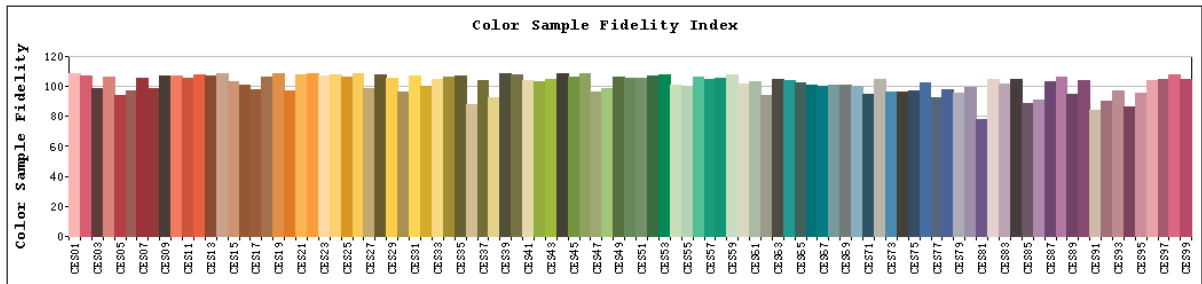
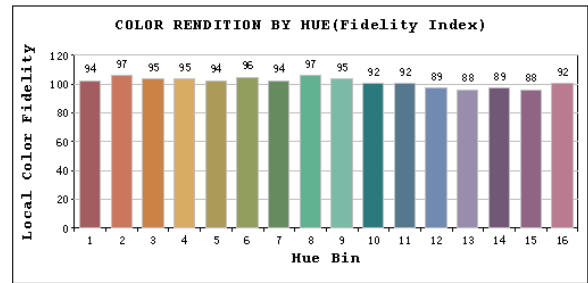
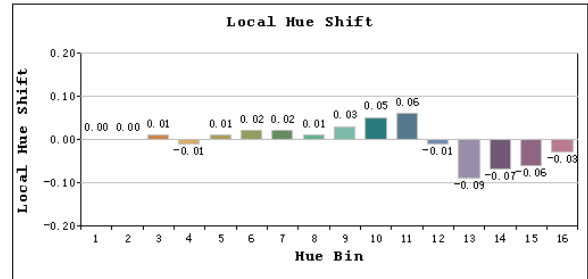
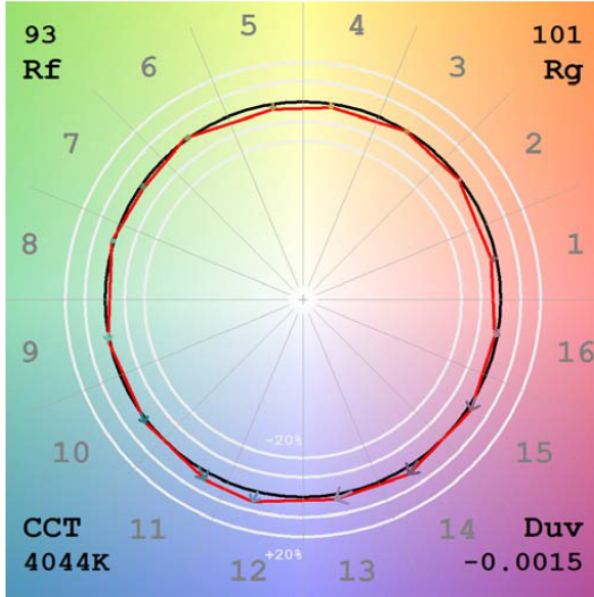
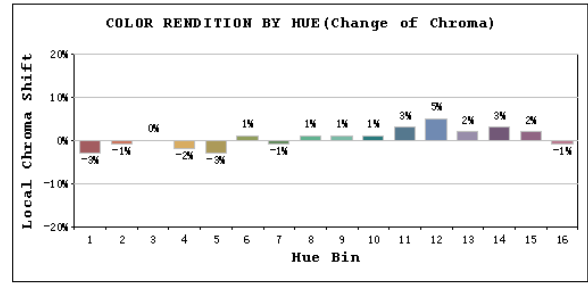
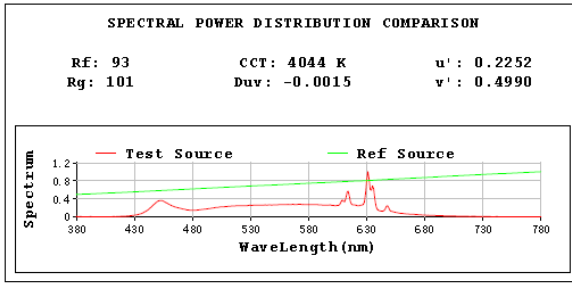
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	92
Frequency (Hz)	60	R2	99	R10	99
CCT (K)	4044	R3	97	R11	96
Duv	-0.0015	R4	99	R12	78
Chromaticity (x, y)	x=0.3775 y=0.3718	R5	98	R13	98
Chromaticity (u', v')	u'=0.2252 v'=0.4990	R6	95	R14	97
Color Rendering Index (CRI)	97.3	R7	97	R15	98
R9	92	R8	96	--	--
Rg	101				
Rf	93				
Rcs,h1%	-3				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	797.2
Luminous Efficacy (lm/W)	99.90

Spectral Power Distribution & Chromaticity Diagram





2.1.5 Electrical, Photometric and Chromaticity Measurements

Test date	2025-10-22	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK-4/PIR	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202510180026	120.0	60	0.071	7.70	0.908

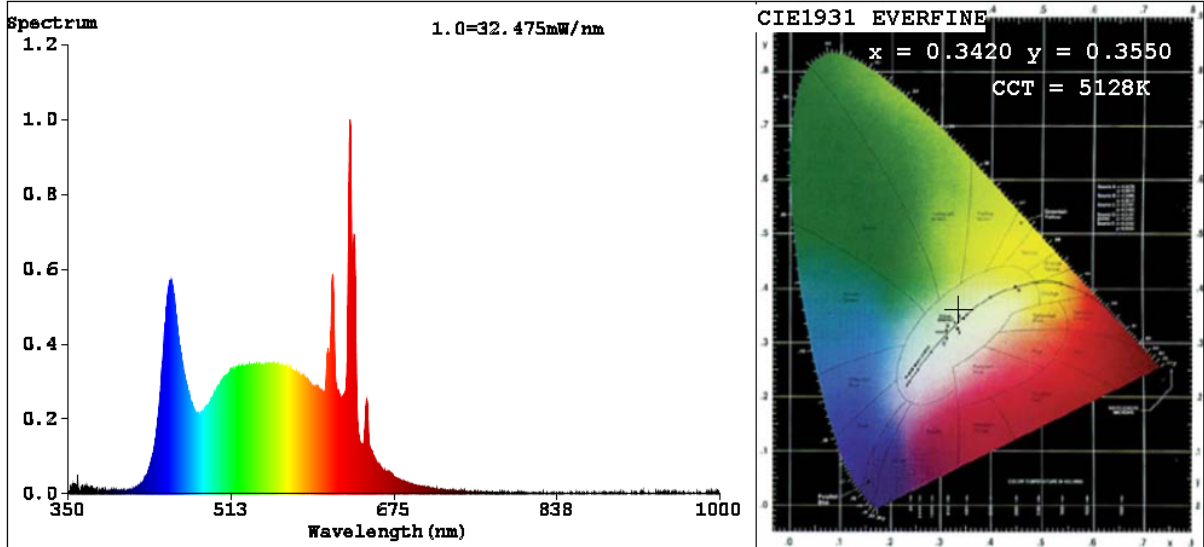
Chromaticity Measurement - Sphere-Spectroradiometer Method:

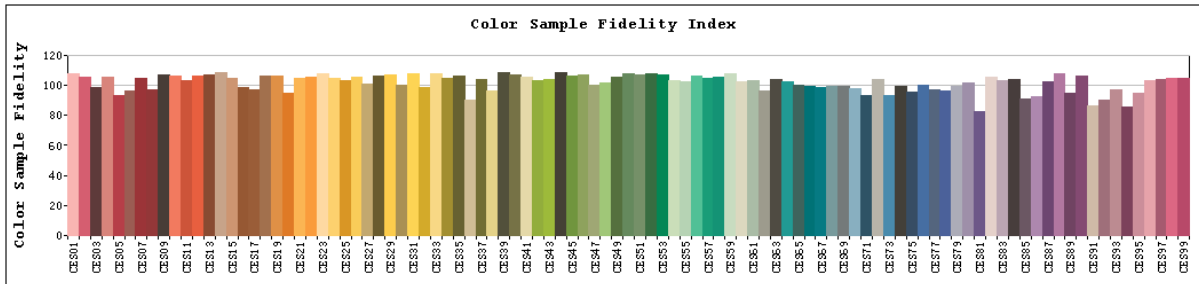
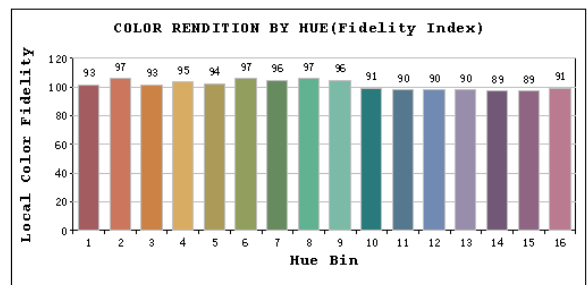
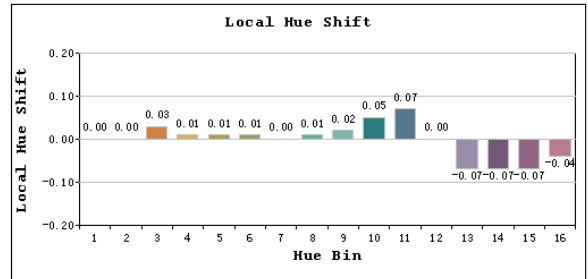
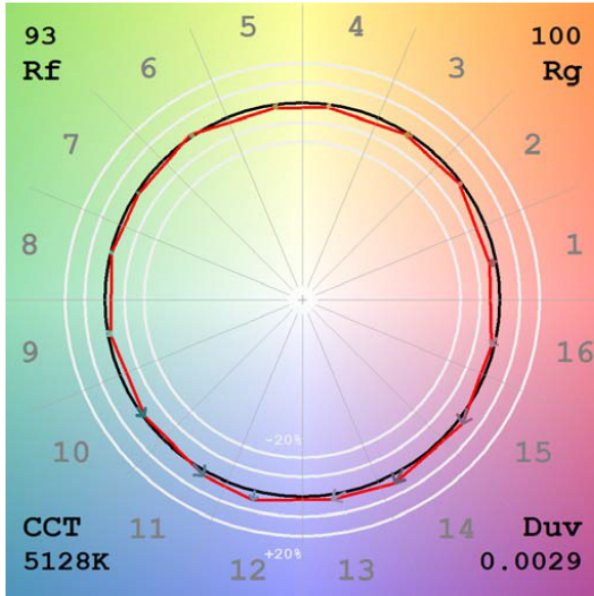
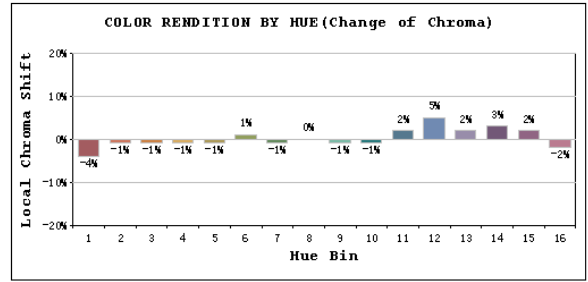
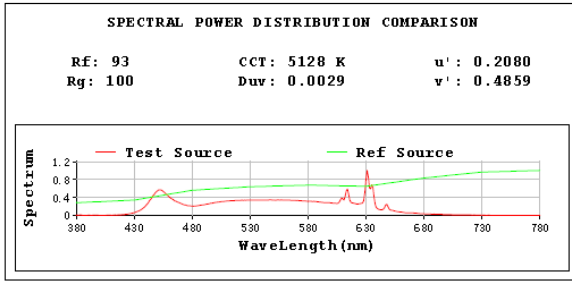
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	84
Frequency (Hz)	60	R2	98	R10	92
CCT (K)	5128	R3	95	R11	97
Duv	0.0029	R4	98	R12	76
Chromaticity (x, y)	x=0.3420 y=0.3550	R5	97	R13	98
Chromaticity (u', v')	u'=0.2080 v'=0.4859	R6	95	R14	97
Color Rendering Index (CRI)	96.4	R7	97	R15	96
R9	84	R8	94	--	--
Rg	100				
Rf	93				
Rcs,h1%	-4				

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	761.3
Luminous Efficacy (lm/W)	98.87

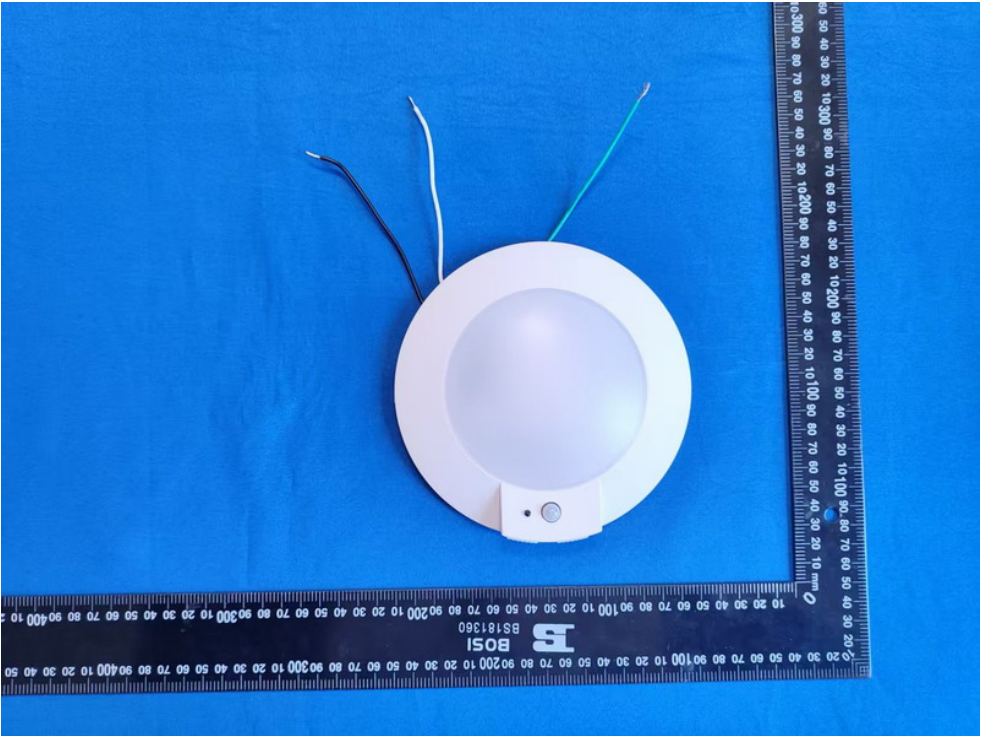
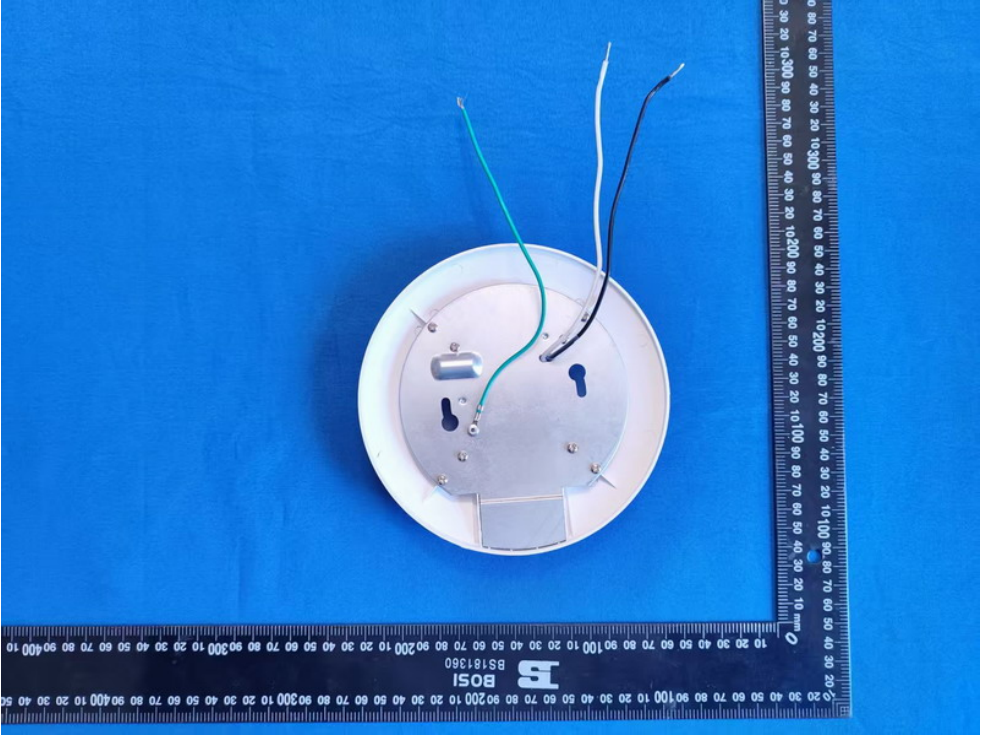
Spectral Power Distribution & Chromaticity Diagram





Sample No.	Wattage and CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
DISK-4/PIR	2700K setting	120	722.4	7.72	93.57
	3000K setting	120	760.9	7.78	97.80
	3500K setting	120	795.2	7.90	100.66
	4000K setting	120	797.2	7.98	99.90
	5000K setting	120	761.3	7.70	98.87

3. Product Photo



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