

LM-79-08 Test Report
For
RAB LIGHTING INC

(Brand Name: N/A)

170 Ludlow Ave, PO BOX 970, Northvale, NJ 07647-2305 USA

Model name(s): DLC0052(C8R559FAUNVW)

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

**Type of
Luminaire:** Downlights

Report Date: 2020-09-12

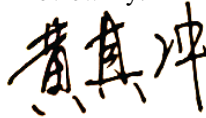
Prepared By:

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

1.1 Rated Values:

Rated Voltage / Frequency	120V-277Vac, 60 Hz
Nominal Power	55.0W
Rated Initial Lamp Lumen	5000 lm
Declared CCT	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**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.

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.

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.

2.1.1 Electrical, Photometric and Chromaticity Measurements

Test date	2020-07-24	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0052(C8R559FAUNVW)	3000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202007220049	120.0	60	0.449	53.60	0.994

Chromaticity Measurement - Sphere-Spectroradiometer Method:

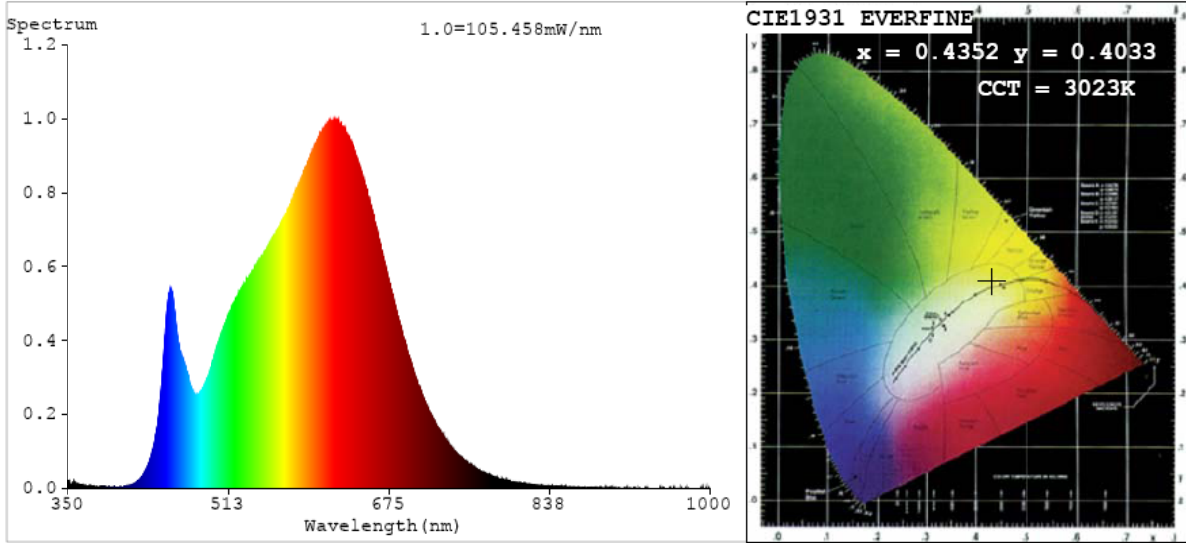
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	93	R9	59
Frequency (Hz)	60	R2	97	R10	92
CCT (K)	3023	R3	99	R11	93
Duv	0.0001	R4	92	R12	80
Chromaticity (x, y)	x=0.4352 y=0.4033	R5	93	R13	94
Chromaticity (u', v')	u'=0.2498 v'=0.5208	R6	96	R14	99
Color Rendering Index (CRI)	92.9	R7	92	R15	89
R9	59	R8	82	--	--

Photometric Measurement – Goniophotometer Method:

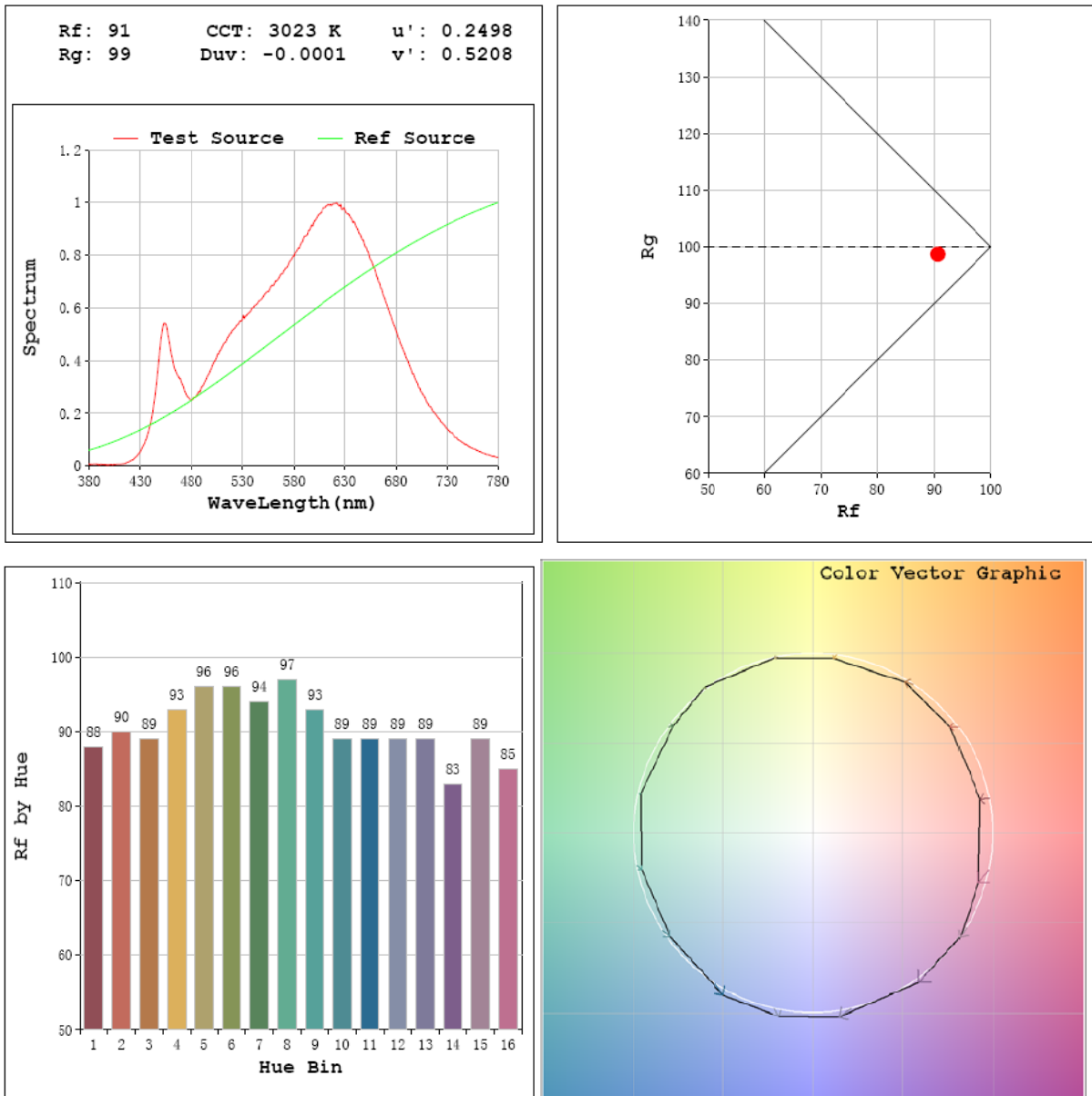
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	5220.2
Luminous Efficacy (lm/W)	97.39
Beam Angle (°)	91.2
Center Beam Candle Power (cd)	2555

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	5313
Luminous Efficacy (lm/W)	100.45

Spectral Power Distribution & Chromaticity Diagram



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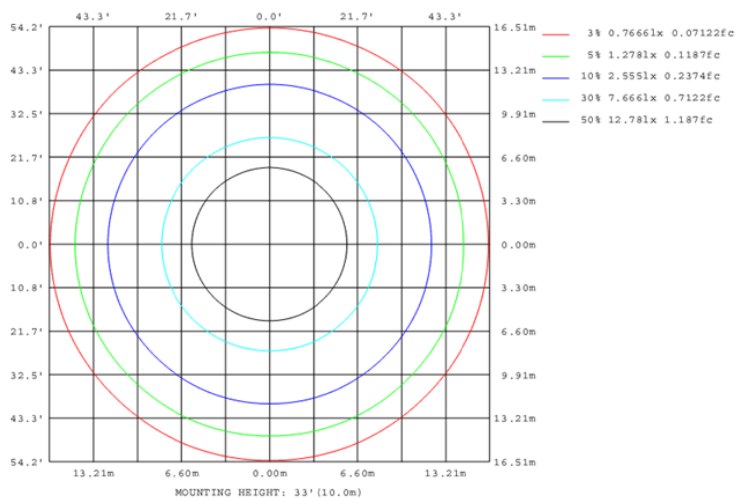
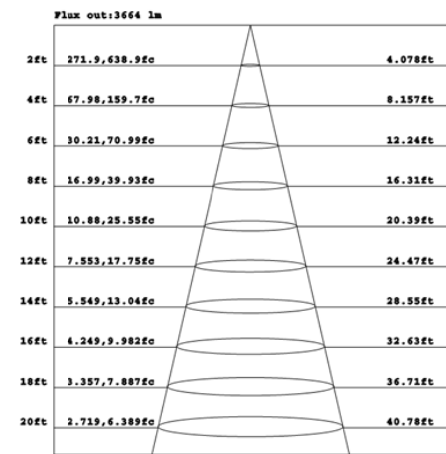
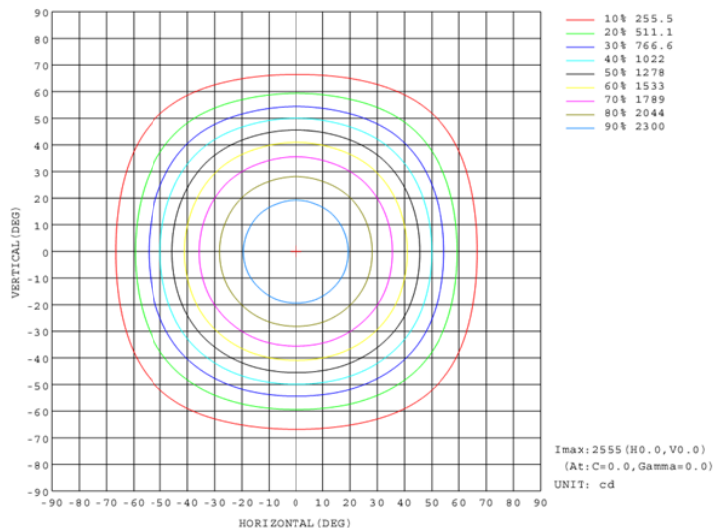
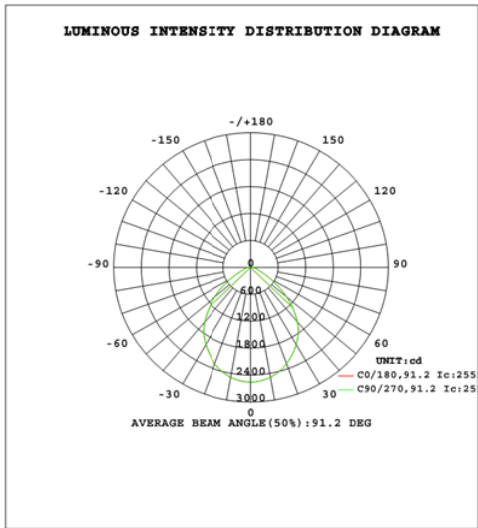


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	1901.9	36.4%
0-40	3027.8	58.0%
0-60	4693.0	89.9%
60-90	527.2	10.1%
70-100	219.3	4.2%
90-120	0.0	0.0%
0-90	5220.2	100.0%
90-180	0.0	0.0%
0-180	5220.2	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	240.4	4.6%	90-100	0.0	0.0%
10-20	675.7	12.9%	100-110	0.0	0.0%
20-30	985.8	18.9%	110-120	0.0	0.0%
30-40	1125.9	21.6%	120-130	0.0	0.0%
40-50	1006.6	19.3%	130-140	0.0	0.0%
50-60	658.7	12.6%	140-150	0.0	0.0%
60-70	307.9	5.9%	150-160	0.0	0.0%
70-80	151.2	2.9%	160-170	0.0	0.0%
80-90	68.2	1.3%	170-180	0.0	0.0%

Photometric Data



2.1.2 Electrical, Photometric and Chromaticity Measurements

Test date	2020-07-24	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0052(C8R559FAUNVW)		3500K

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202007220049	120.0	60	0.445	53.02	0.993

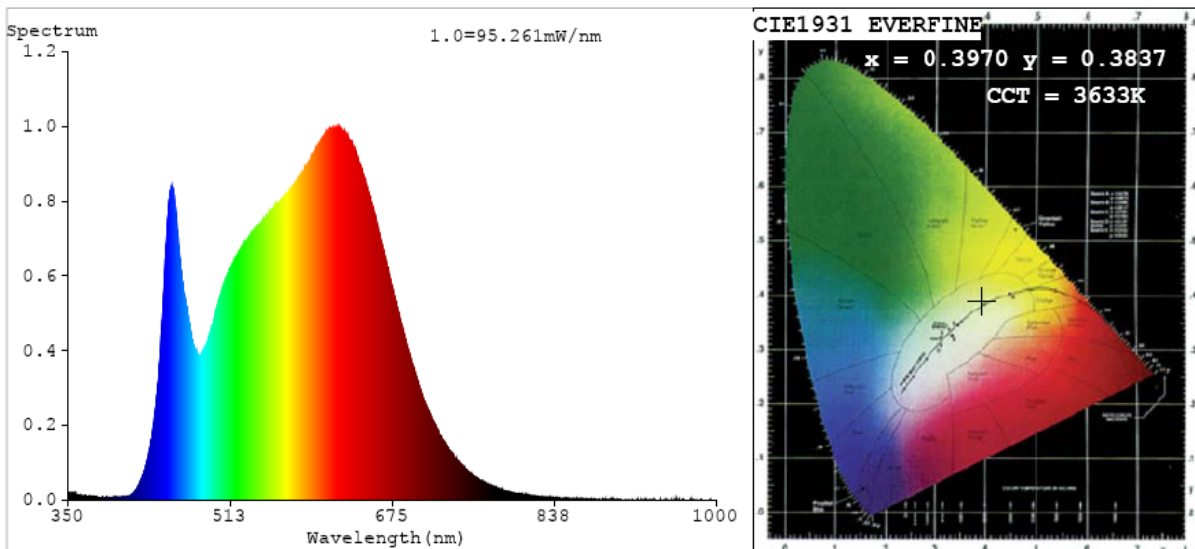
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3633
Duv	0.0012
Chromaticity (x, y)	x=0.3970 y=0.3837
Chromaticity (u', v')	u'=0.2332 v'=0.5071
Color Rendering Index (CRI)	95.2
R9	74
Total Luminous (lm)	5397
Luminous Efficacy (lm/W)	101.79

Special Color Rendering Indices			
R1	96	R9	74
R2	98	R10	95
R3	98	R11	96
R4	95	R12	78
R5	95	R13	97
R6	96	R14	99
R7	94	R15	94
R8	88	--	--

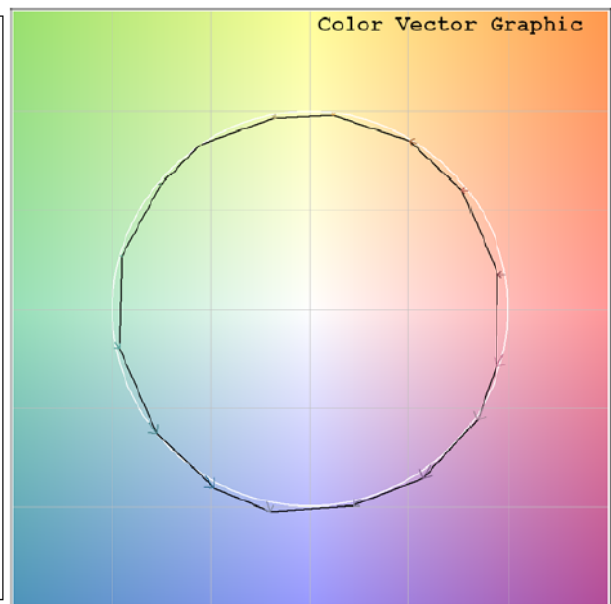
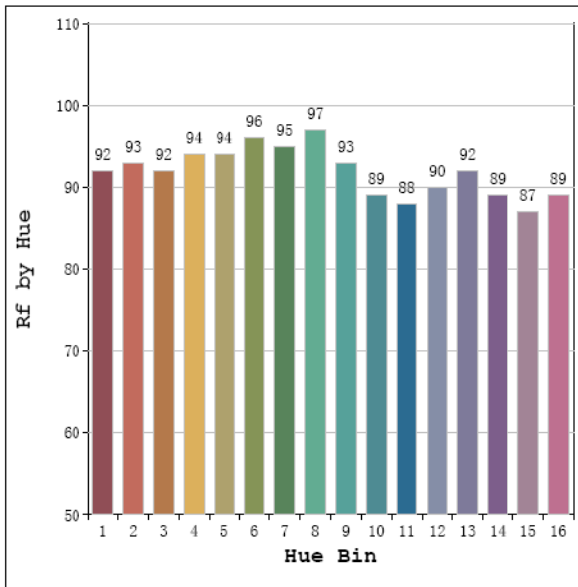
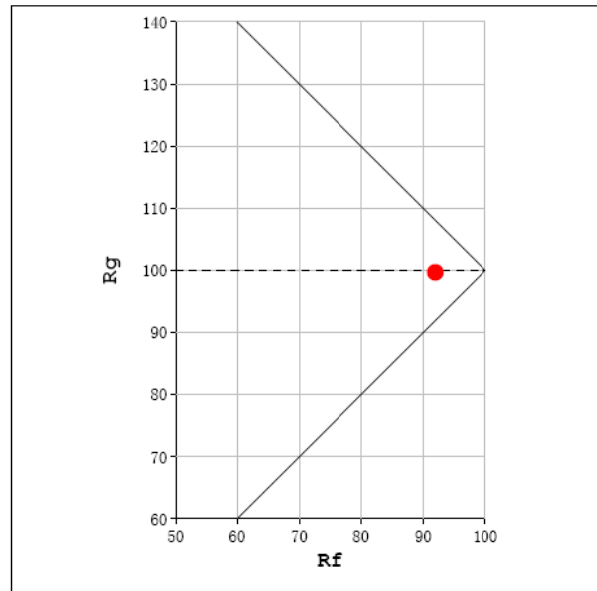
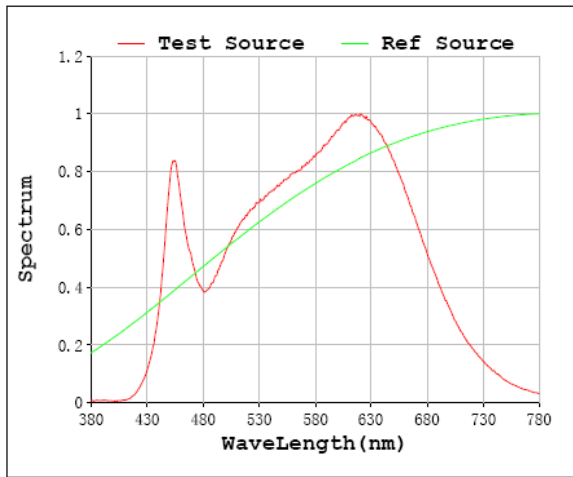
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	5422
Luminous Efficacy (lm/W)	102.82

Spectral Power Distribution & Chromaticity Diagram



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Rf: 92 CCT: 3633 K u': 0.2332
 Rg: 100 Duv: -0.0012 v': 0.5071



2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2020-07-24	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0052(C8R559FAUNVW) 4000K		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202007220049	120.0	60	0.444	52.89	0.993

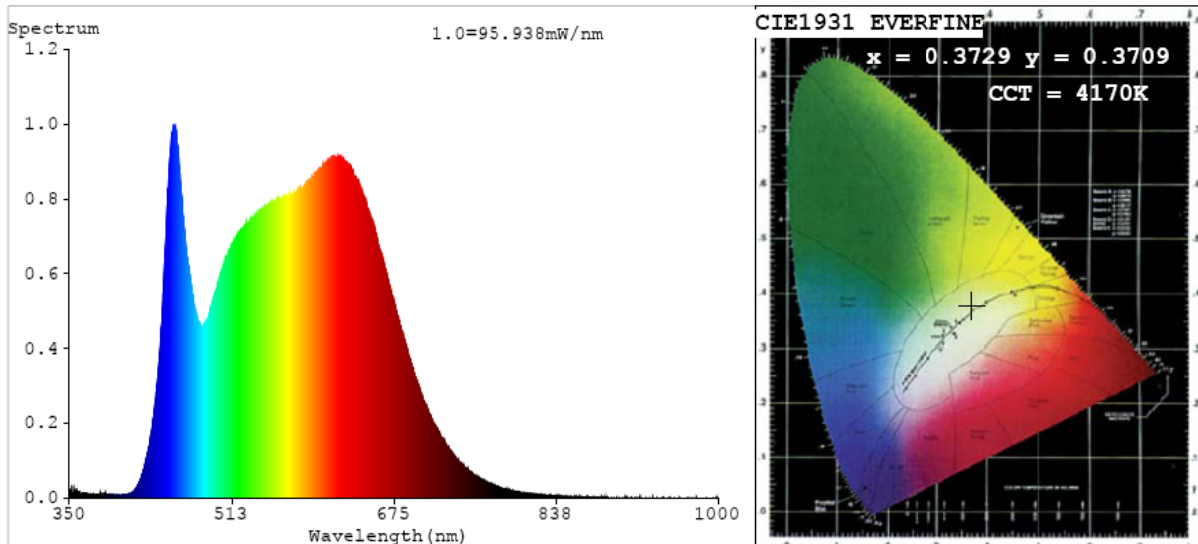
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4170
Duv	0.0005
Chromaticity (x, y)	x=0.3729 y=0.3709
Chromaticity (u', v')	u'=0.2225 v'=0.4978
Color Rendering Index (CRI)	95.8
R9	80
Total Luminous (lm)	5435
Luminous Efficacy (lm/W)	102.75

Special Color Rendering Indices			
R1	97	R9	80
R2	99	R10	95
R3	98	R11	96
R4	95	R12	76
R5	95	R13	98
R6	96	R14	99
R7	95	R15	95
R8	91	--	--

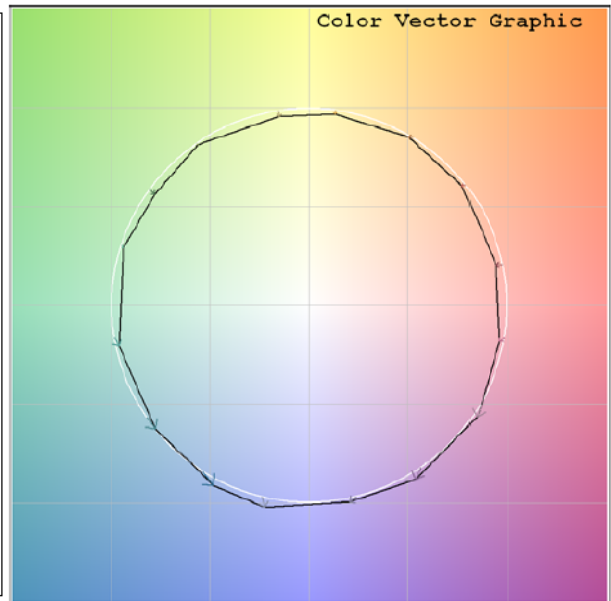
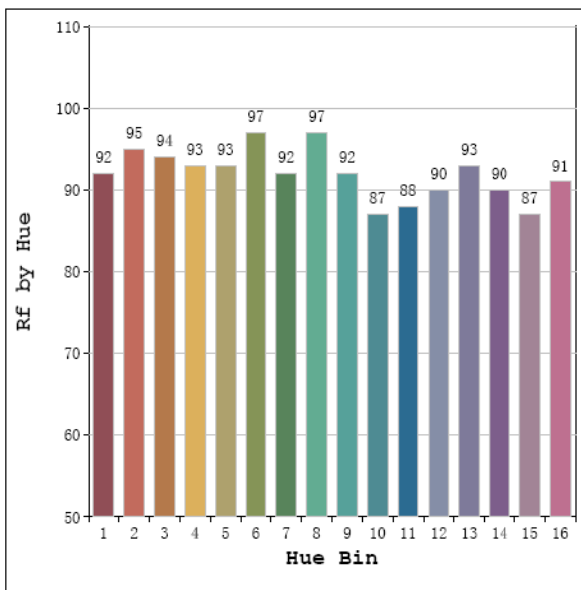
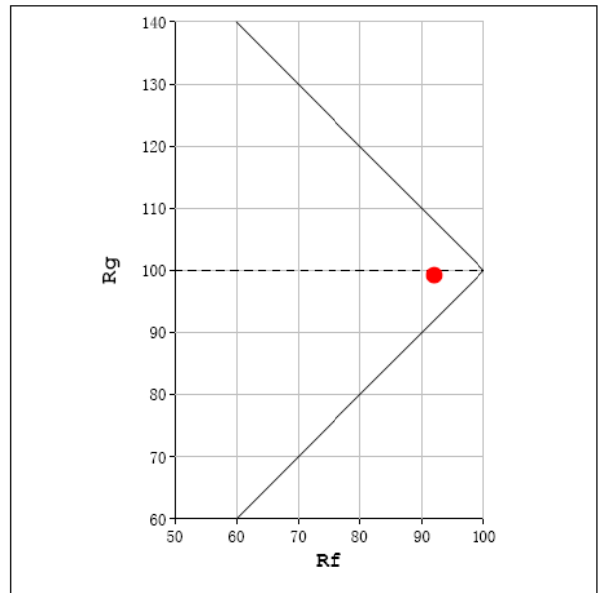
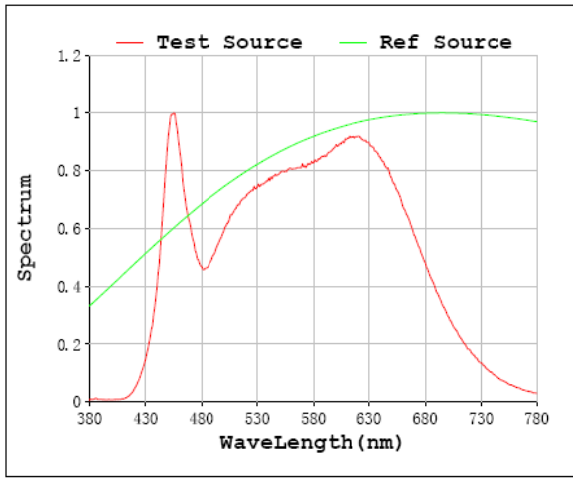
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	5465
Luminous Efficacy (lm/W)	103.99

Spectral Power Distribution & Chromaticity Diagram



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Rf: 92 CCT: 4170 K u': 0.2225
 Rg: 99 Duv: -0.0005 v': 0.4978



2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2020-07-24	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0052(C8R559FAUNVW) 5000K		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202007220049	120.0	60	0.441	52.56	0.993

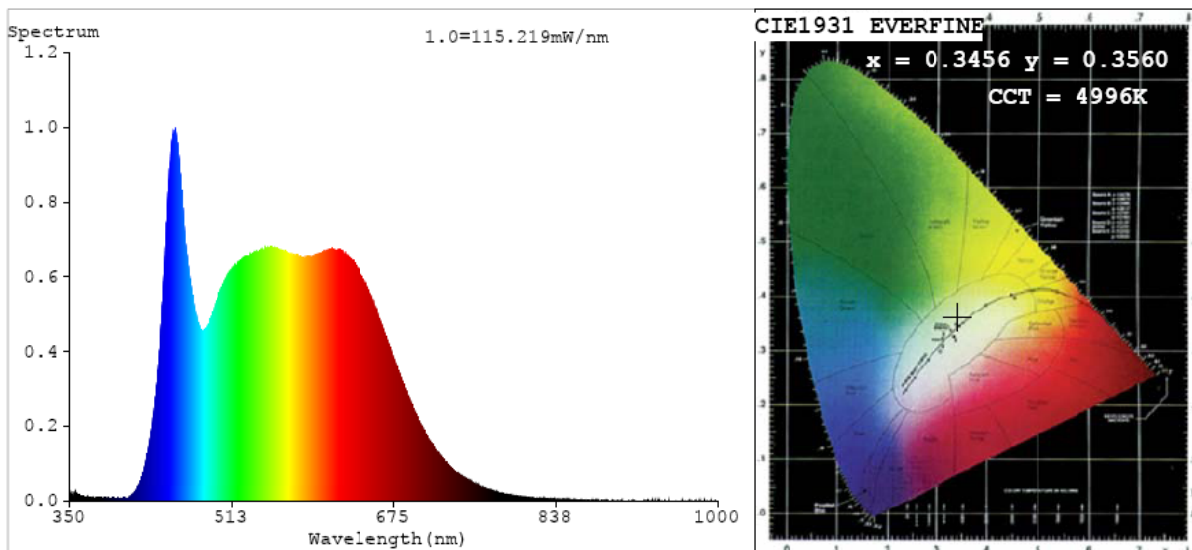
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4996
Duv	0.0020
Chromaticity (x, y)	x=0.3456 y=0.3560
Chromaticity (u', v')	u'=0.2101 v'=0.4869
Color Rendering Index (CRI)	95.2
R9	81
Total Luminous (lm)	5439
Luminous Efficacy (lm/W)	103.49

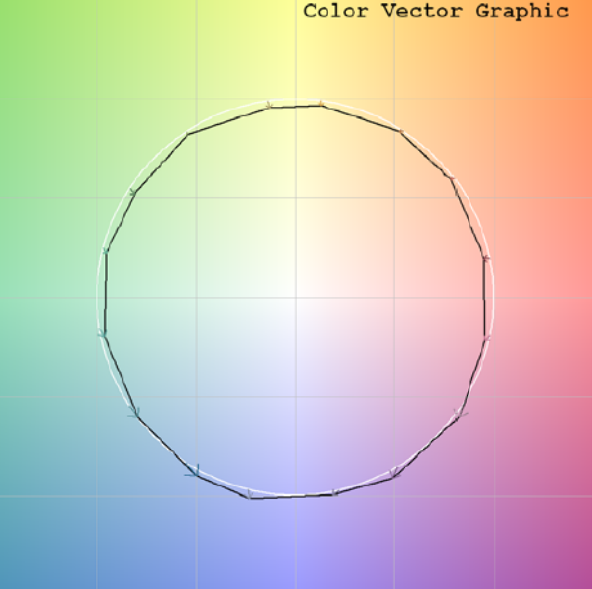
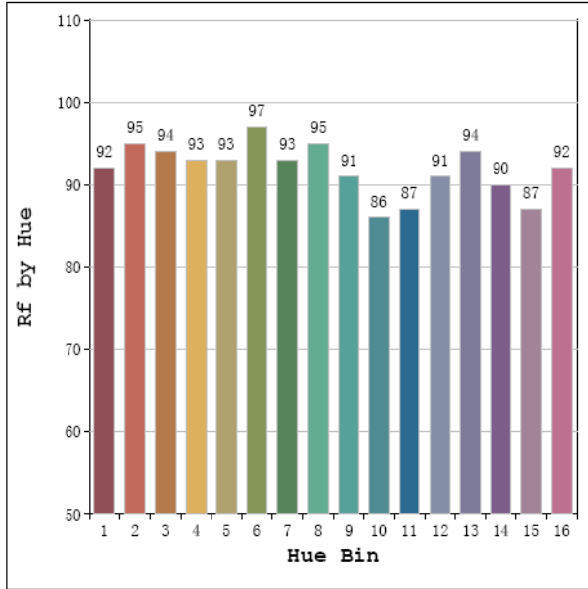
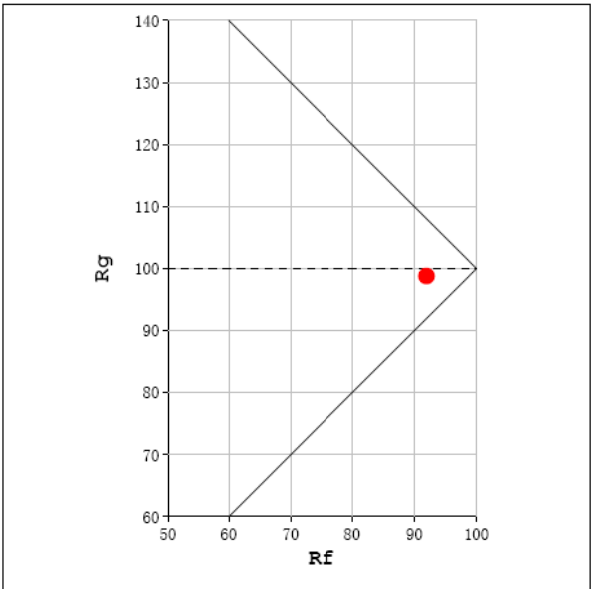
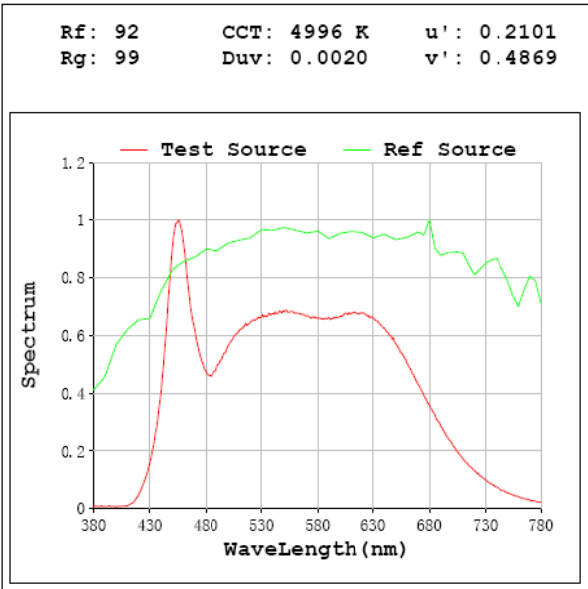
Special Color Rendering Indices			
R1	96	R9	81
R2	98	R10	95
R3	98	R11	94
R4	93	R12	71
R5	94	R13	97
R6	95	R14	99
R7	95	R15	94
R8	92	--	--

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	5467
Luminous Efficacy (lm/W)	104.58

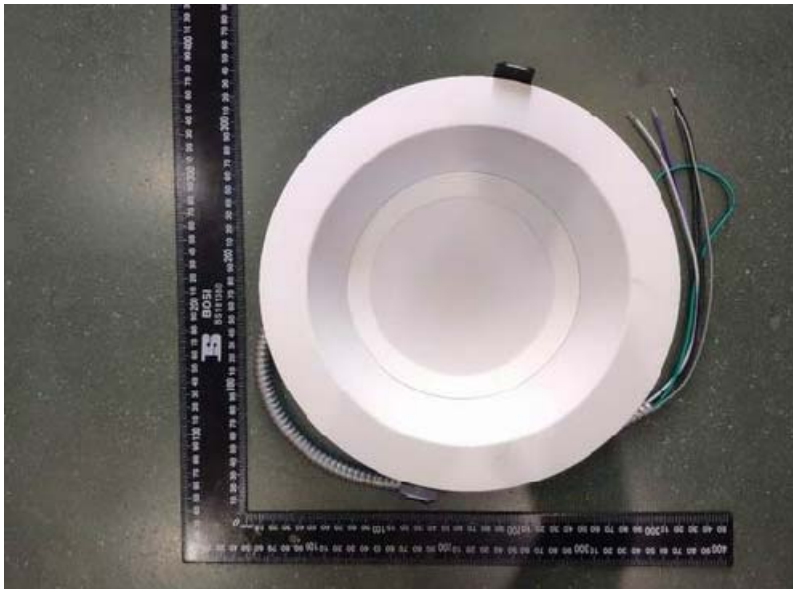
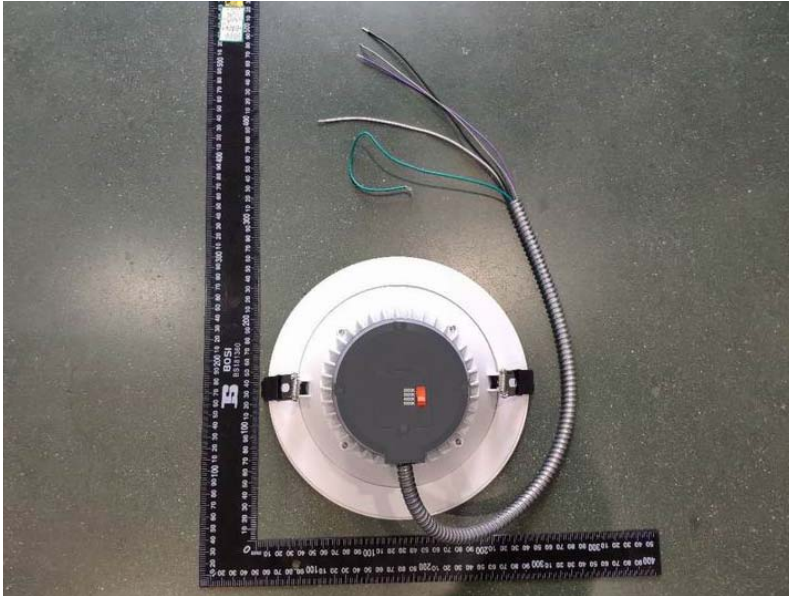
Spectral Power Distribution & Chromaticity Diagram



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3. Product Photo



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