

**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): DLC0051(C8R339FAUNVW)**

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

**Type of  
Luminaire:** Downlights

**Report Date:** 2020-09-12

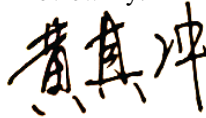
**Prepared By:**

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

<b>1.1 Rated Values:</b>	
Rated Voltage / Frequency	120V-277Vac, 60 Hz
Nominal Power	33.0W
Rated Initial Lamp Lumen	3000 lm
Declared CCT	3000K/3500K/4000K/5000K

### 1.2 Test Specifications:

Test item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Correlated Color Temperature</li> <li>5. Color Rendering Index</li> <li>6. Chromaticity Coordinate</li> <li>7. Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>4. CIE 15-2004 Technical Report Colorimetry</li> <li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> <li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> </ol>
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

<b>Test date</b>	2020-09-12	<b>Test Ambient:</b>	25.3 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	DLC0051(C8R339FAUNVW)	3000K	

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202009120029	120.0	60	0.273	32.5	0.992

### Chromaticity Measurement - Sphere-Spectroradiometer Method:

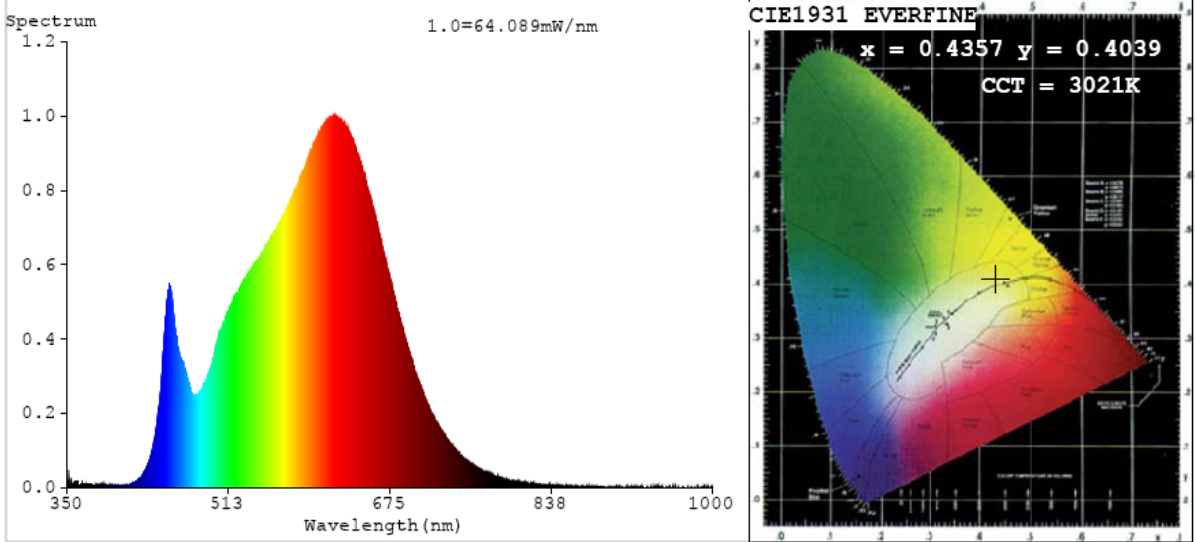
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	93	R9	60
Frequency (Hz)	60	R2	97	R10	91
CCT (K)	3021	R3	99	R11	93
Duv	0.0001	R4	93	R12	79
Chromaticity (x, y)	x=0.4357 y=0.4039	R5	93	R13	94
Chromaticity (u', v')	u'=0.2498 v'=0.5211	R6	96	R14	99
Color Rendering Index (CRI)	92.9	R7	92	R15	89
R9	60	R8	82	--	--

### Photometric Measurement – Goniophotometer Method:

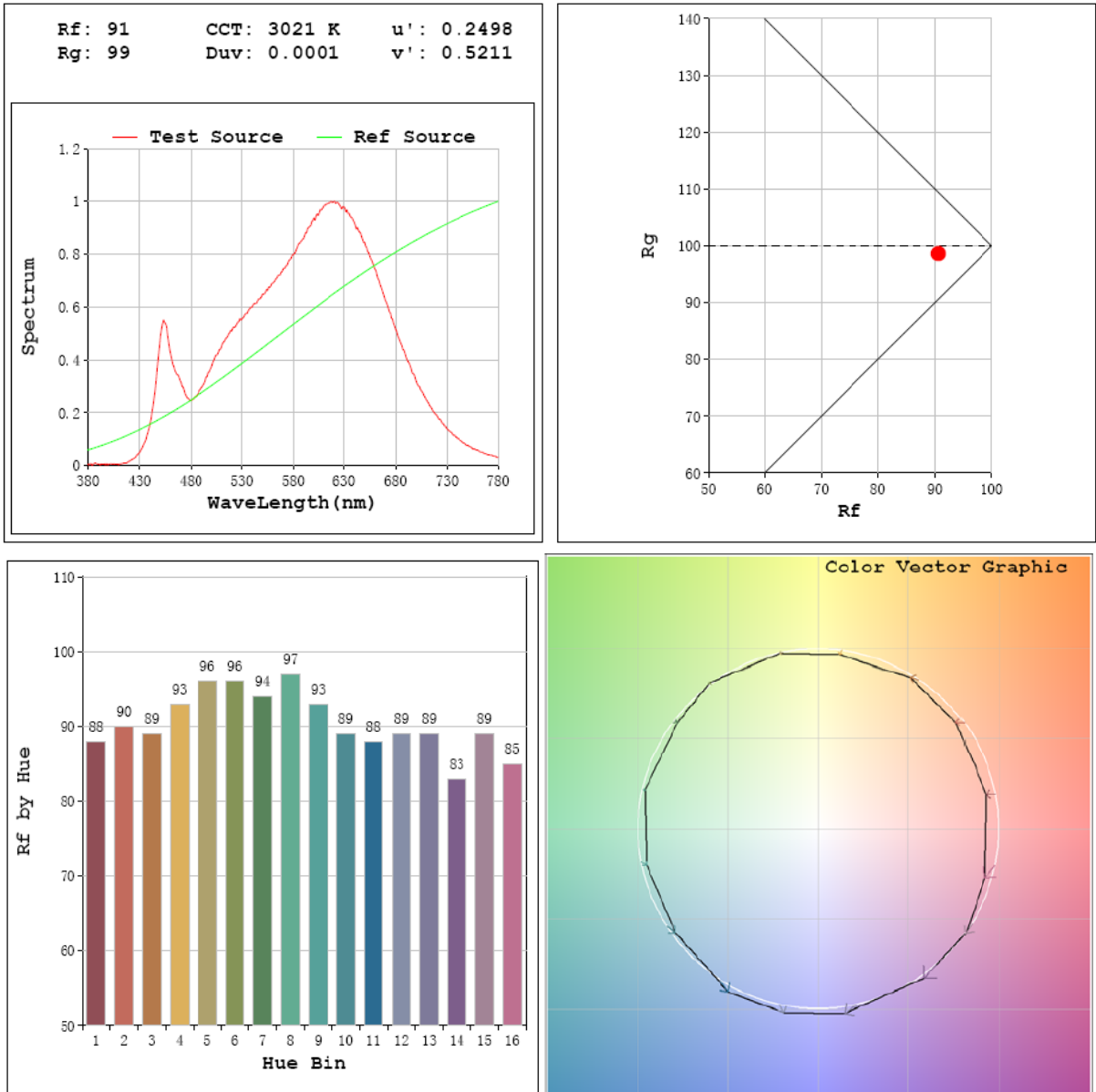
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	3216.7
Luminous Efficacy (lm/W)	98.97
Beam Angle (°)	92.3
Center Beam Candle Power (cd)	1557

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	3182
Luminous Efficacy (lm/W)	100.25

# Spectral Power Distribution & Chromaticity Diagram



## T30

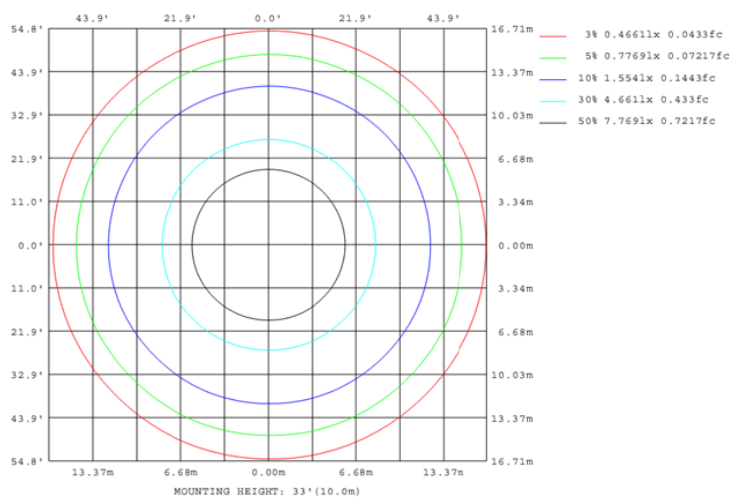
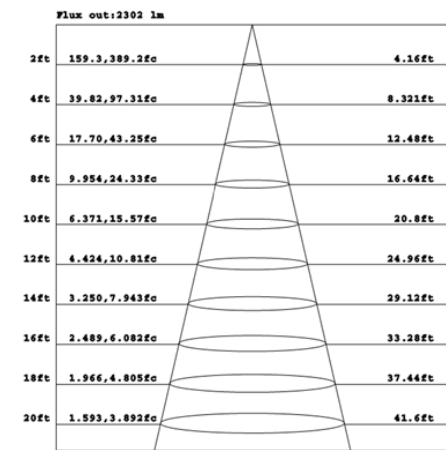
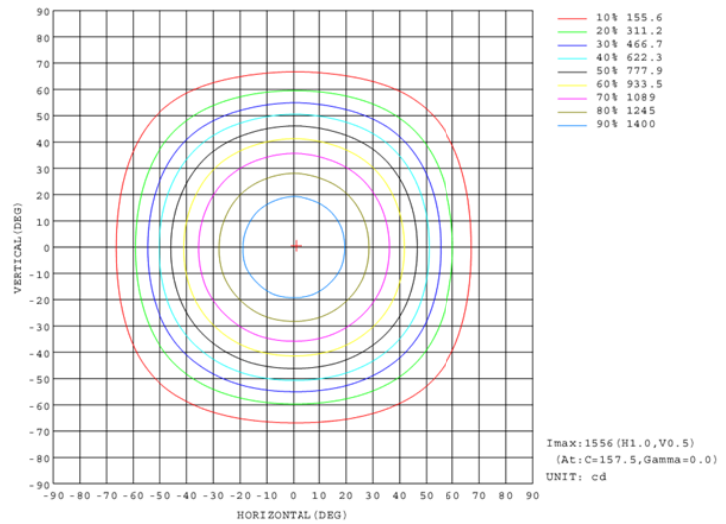
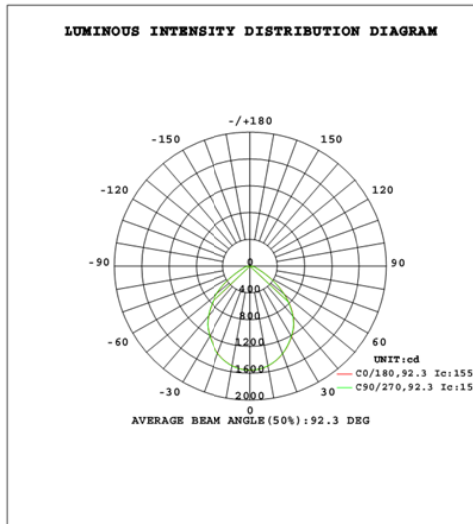


# Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	1157.6	36.0%
0-40	1846.3	57.4%
0-60	2890.0	89.8%
60-90	326.7	10.2%
70-100	136.9	4.3%
90-120	0.0	0.0%
0-90	3216.7	100.0%
90-180	0.0	0.0%
0-180	3216.7	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	146.3	4.5%	90-100	0.0	0.0%
10-20	411.1	12.8%	100-110	0.0	0.0%
20-30	600.2	18.7%	110-120	0.0	0.0%
30-40	688.8	21.4%	120-130	0.0	0.0%
40-50	627.0	19.5%	130-140	0.0	0.0%
50-60	416.6	13.0%	140-150	0.0	0.0%
60-70	189.8	5.9%	150-160	0.0	0.0%
70-80	94.4	2.9%	160-170	0.0	0.0%
80-90	42.6	1.3%	170-180	0.0	0.0%

## Photometric Data



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.



## 2.1.2 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2020-09-12	<b>Test Ambient:</b>	25.3 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	DLC0051(C8R339FAUNVW)		3500K

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202009120029	120.0	60	0.270	32.15	0.992

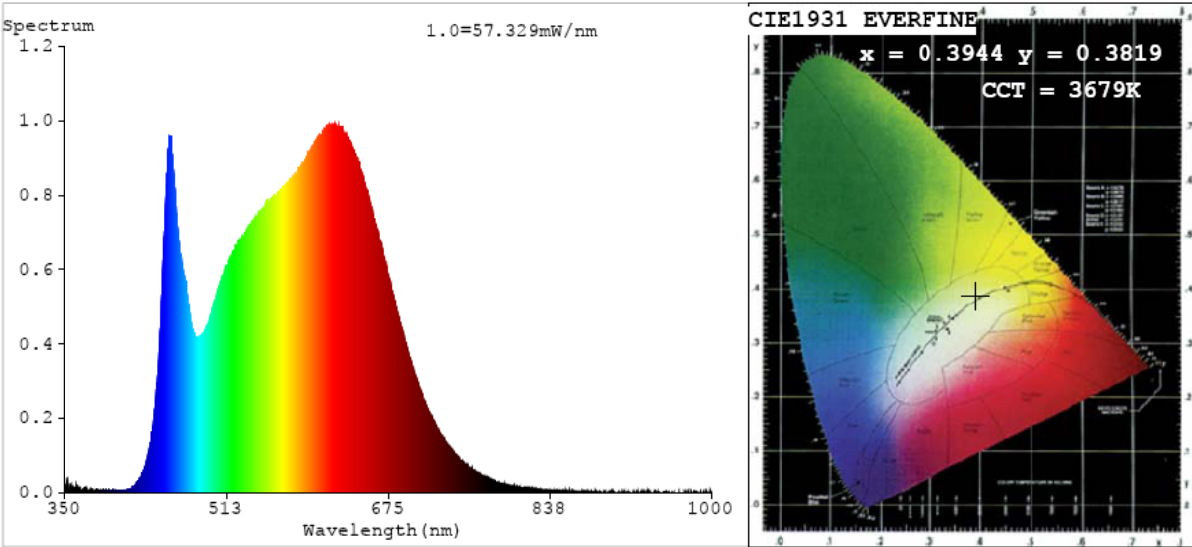
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3679
Duv	0.0014
Chromaticity (x, y)	x=0.3944 y=0.3819
Chromaticity (u', v')	u'=0.2322 v'=0.5059
Color Rendering Index (CRI)	95.2
R9	77
Total Luminous (lm)	3259
Luminous Efficacy (lm/W)	101.38

Special Color Rendering Indices			
R1	97	R9	77
R2	99	R10	97
R3	99	R11	95
R4	94	R12	75
R5	95	R13	98
R6	96	R14	99
R7	93	R15	95
R8	89	--	--

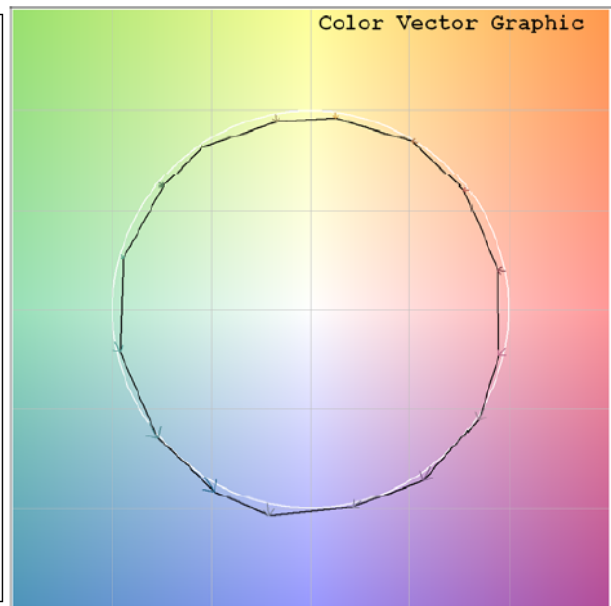
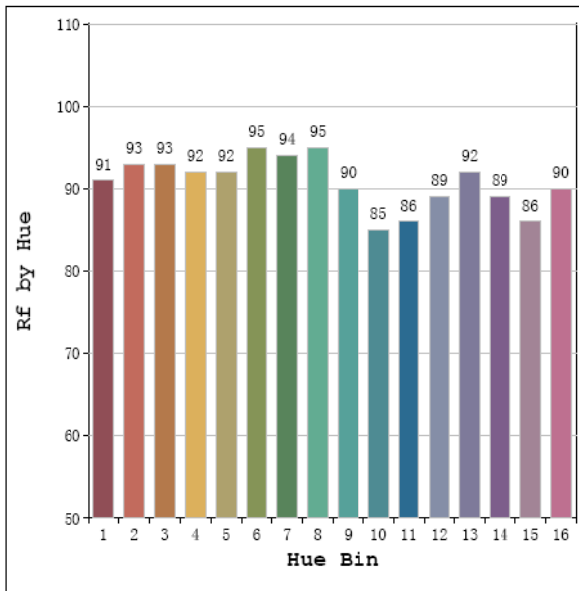
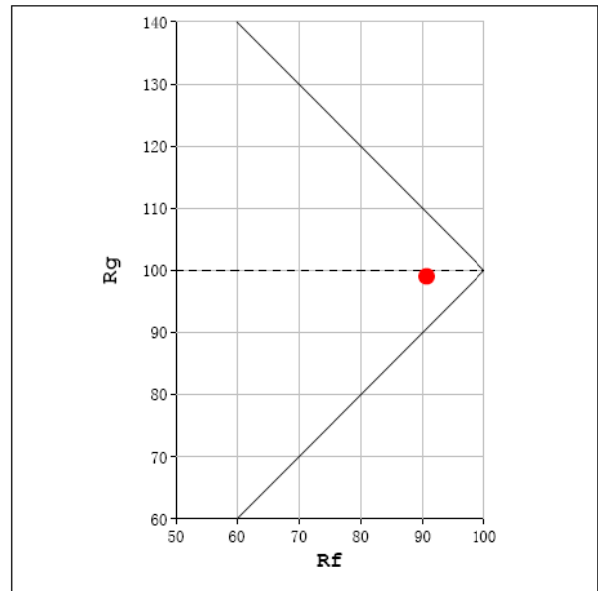
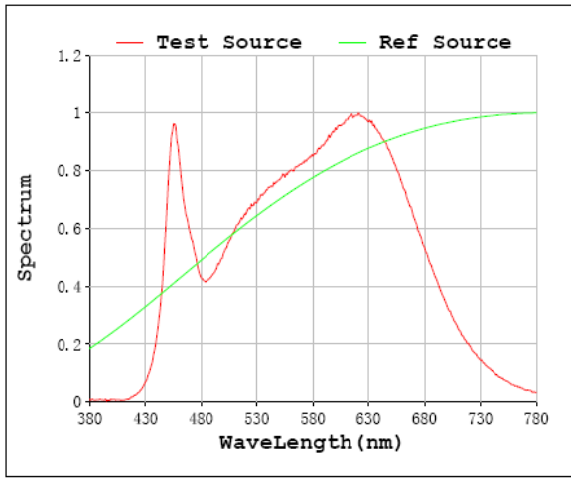
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	3219
Luminous Efficacy (lm/W)	101.82

## Spectral Power Distribution & Chromaticity Diagram



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Rf: 91      CCT: 3679 K      u': 0.2322  
 Rg: 99      Duv: -0.0014      v': 0.5059





### 2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2020-09-12	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0051(C8R339FAUNVW) 4000K		

#### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202009120029	120.0	60	0.269	32.03	0.991

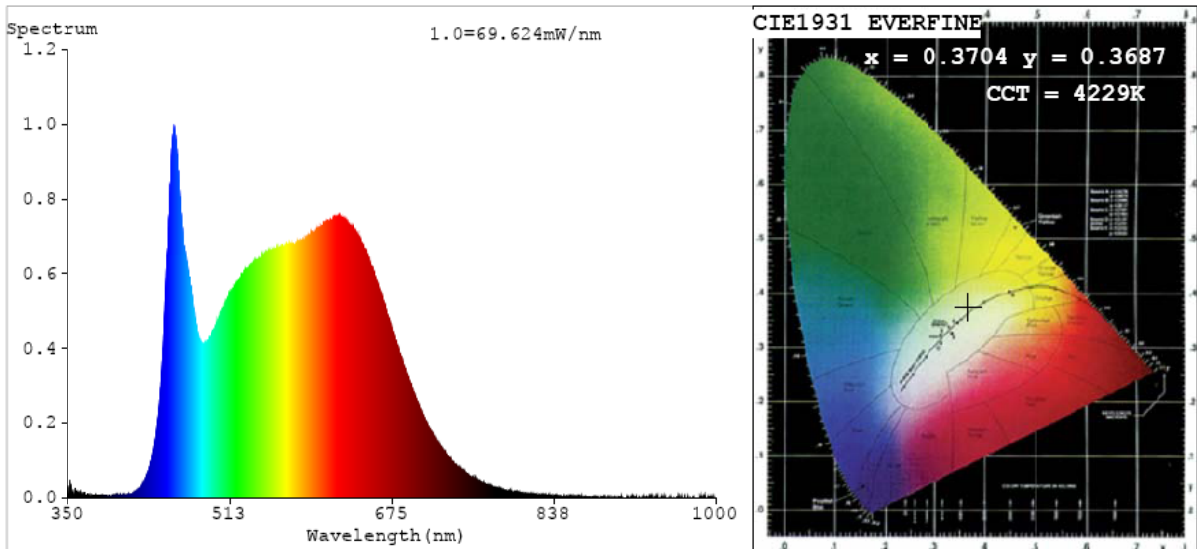
#### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4229
Duv	0.0007
Chromaticity (x, y)	x=0.3704 y=0.3687
Chromaticity (u', v')	u'=0.2217 v'=0.4965
Color Rendering Index (CRI)	95.1
R9	85
Total Luminous (lm)	3269
Luminous Efficacy (lm/W)	102.07

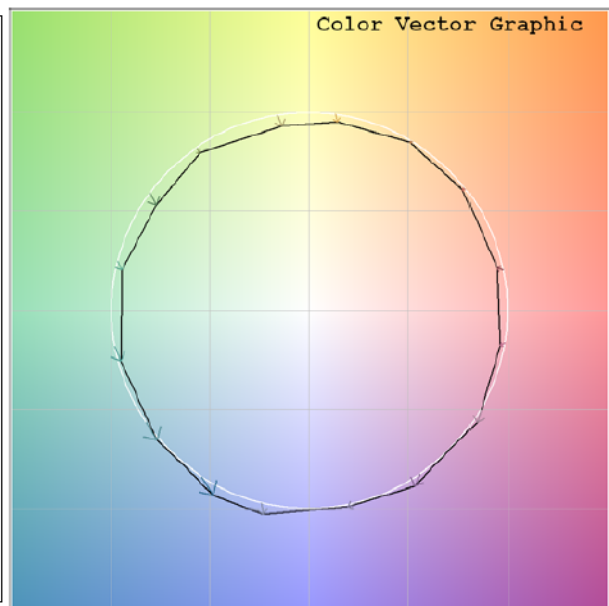
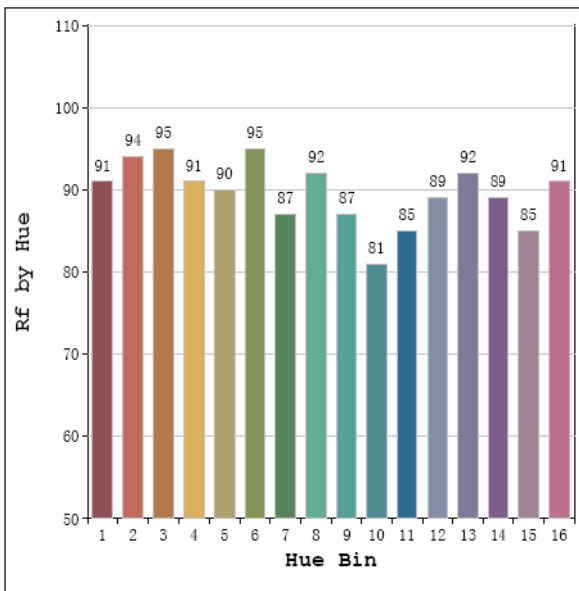
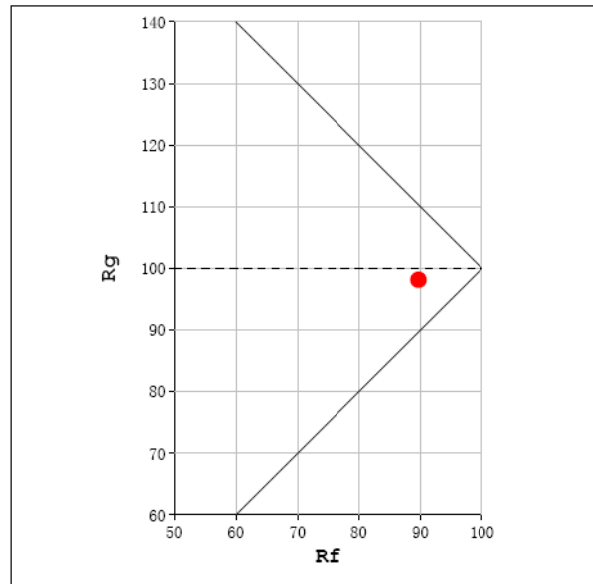
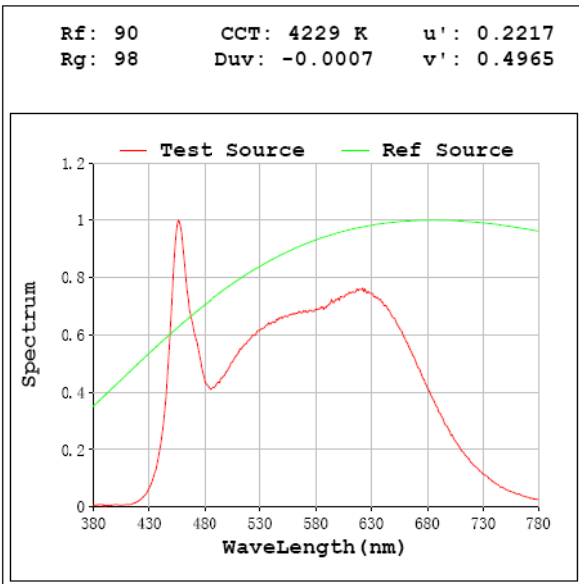
Special Color Rendering Indices			
R1	97	R9	85
R2	99	R10	99
R3	99	R11	94
R4	92	R12	71
R5	94	R13	99
R6	96	R14	100
R7	93	R15	95
R8	91	--	--

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	3233
Luminous Efficacy (lm/W)	102.60

### Spectral Power Distribution & Chromaticity Diagram



# T30



### 2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2020-09-12	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0051(C8R339FAUNVW) 5000K		

#### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202009120029	120.0	60	0.267	31.79	0.991

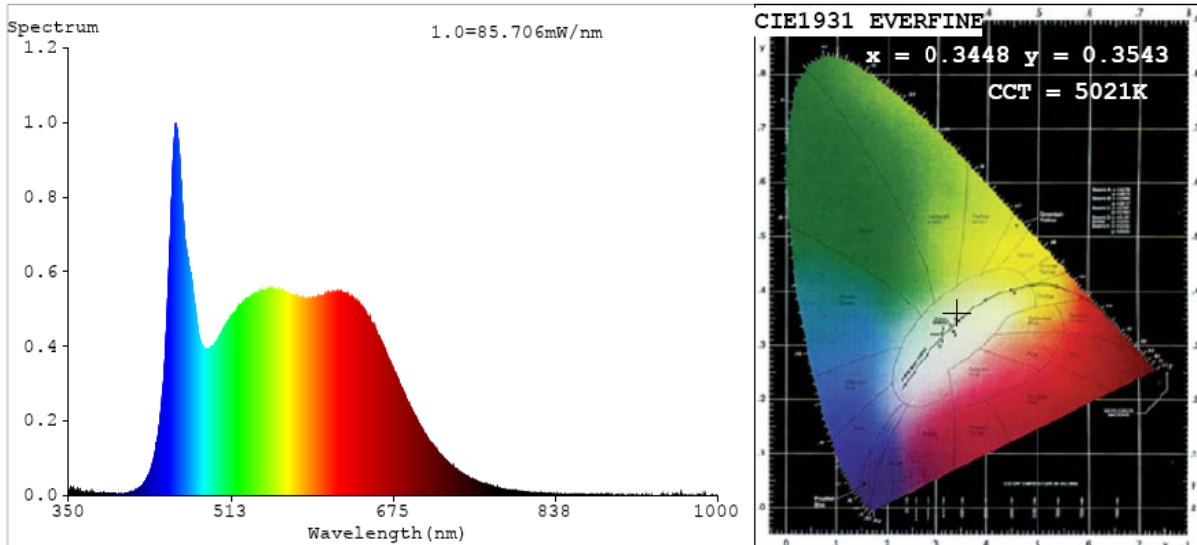
#### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	5021
Duv	0.0015
Chromaticity (x, y)	x=0.3448 y=0.3543
Chromaticity (u', v')	u'=0.2102 v'=0.4859
Color Rendering Index (CRI)	94.7
R9	88
Total Luminous (lm)	3264
Luminous Efficacy (lm/W)	102.68

Special Color Rendering Indices			
R1	97	R9	88
R2	99	R10	99
R3	98	R11	93
R4	91	R12	72
R5	94	R13	99
R6	95	R14	100
R7	92	R15	95
R8	91	--	--

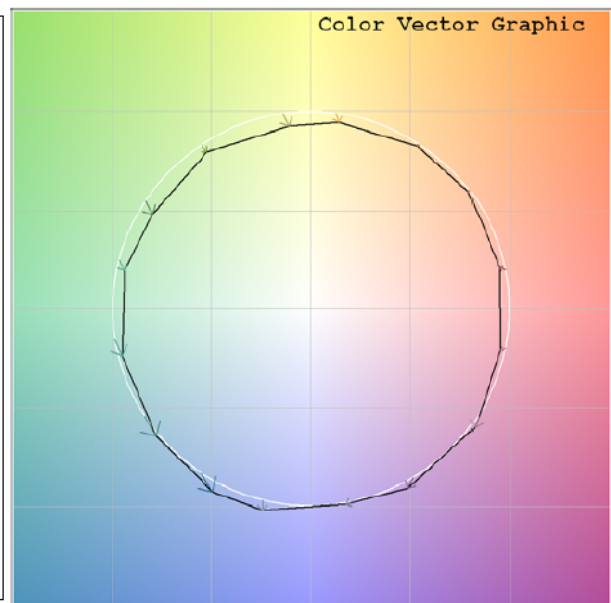
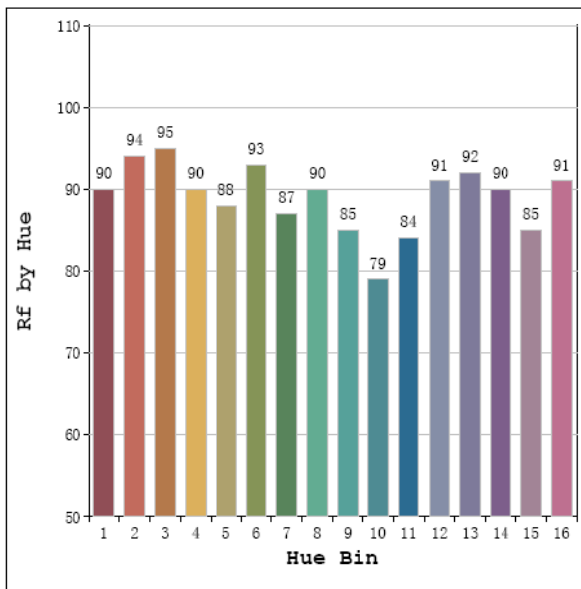
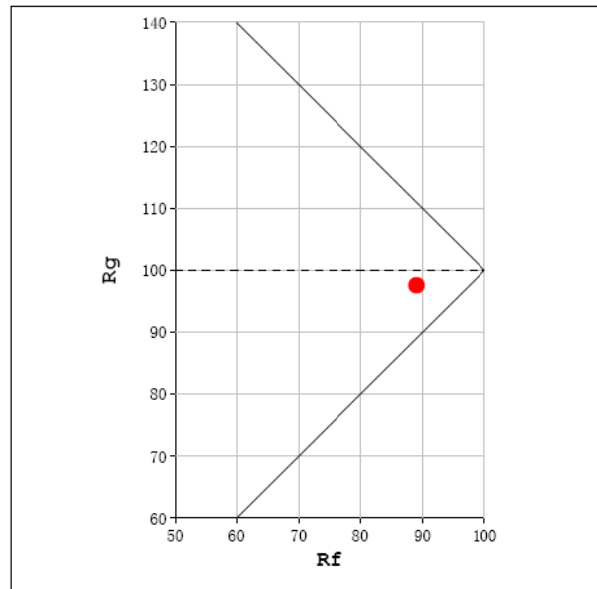
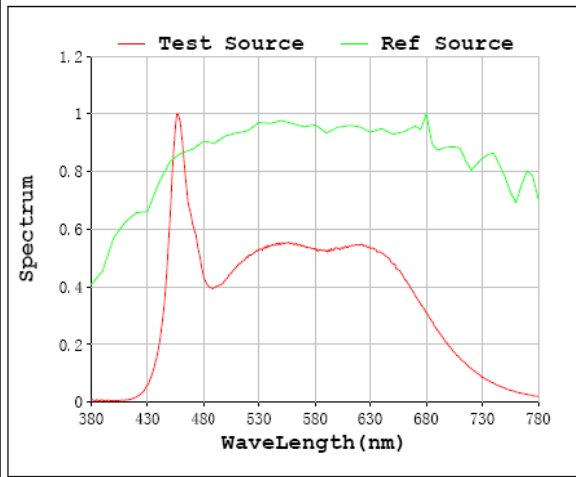
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	3225
Luminous Efficacy (lm/W)	103.00

### Spectral Power Distribution & Chromaticity Diagram

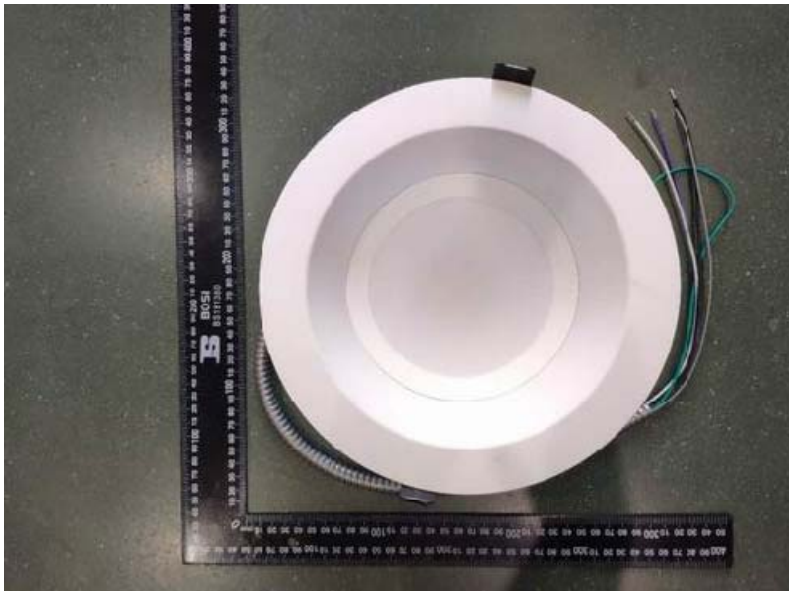
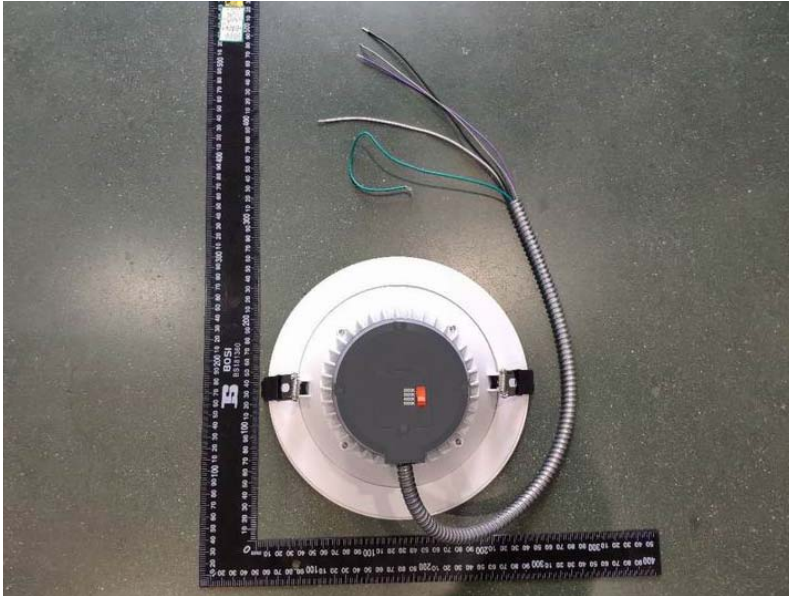


# T30

Rf: 89      CCT: 5021 K      u': 0.2102  
 Rg: 98      Duv: 0.0015      v': 0.4859



### 3. Product Photo



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