

**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):**  
**DLC0042(C8R34/46/599FAUNVW)**

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

**Type of  
Luminaire:** Downlights

**Report Date:** 2020-09-11

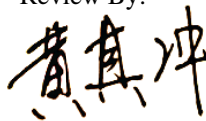
**Prepared By:**

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	34.0 W /46.0 W /59.0W
Rated Initial Lamp Lumen	3000 lm /4000 lm /5000 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>	2020-09-11	<b>Test Ambient:</b>	25.3 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	DLC0042(C8R34/46/599FAUNVW) 3000K		

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202008310021	120.0	60	0.468	55.9	0.996

### Chromaticity Measurement - Sphere-Spectroradiometer Method:

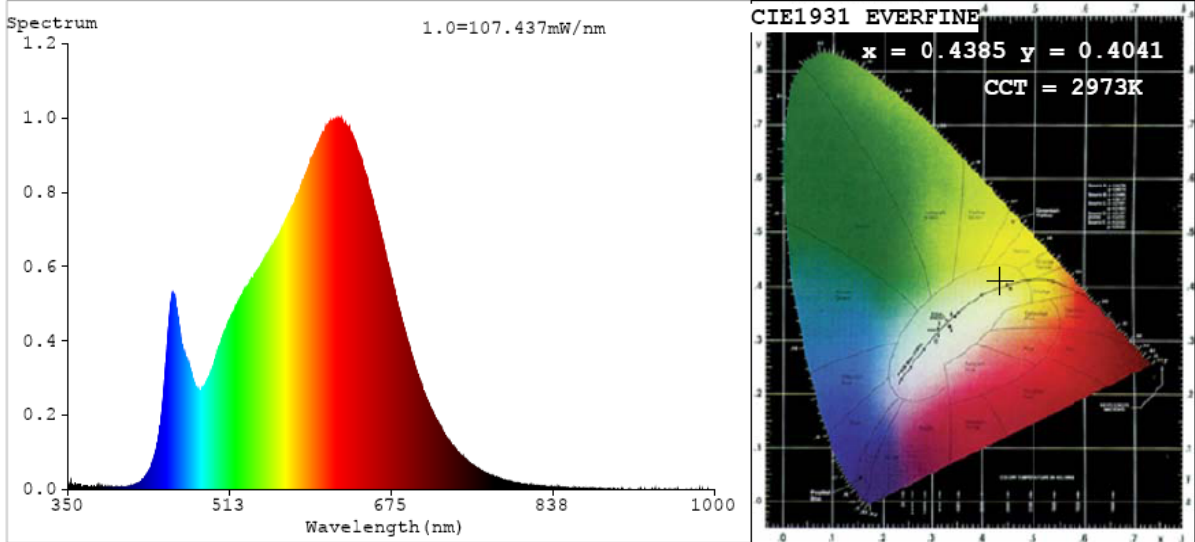
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	94	R9	62
Frequency (Hz)	60	R2	98	R10	94
CCT (K)	2973	R3	99	R11	93
Duv	0.0002	R4	92	R12	80
Chromaticity (x, y)	x=0.4385 y=0.4041	R5	93	R13	95
Chromaticity (u', v')	u'=0.2516 v'=0.5216	R6	97	R14	100
Color Rendering Index (CRI)	93.4	R7	91	R15	90
R9	62	R8	83	--	--

### Photometric Measurement – Goniophotometer Method:

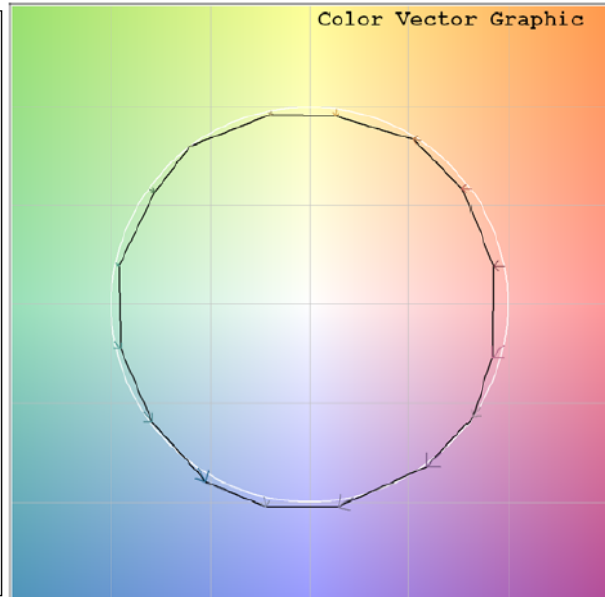
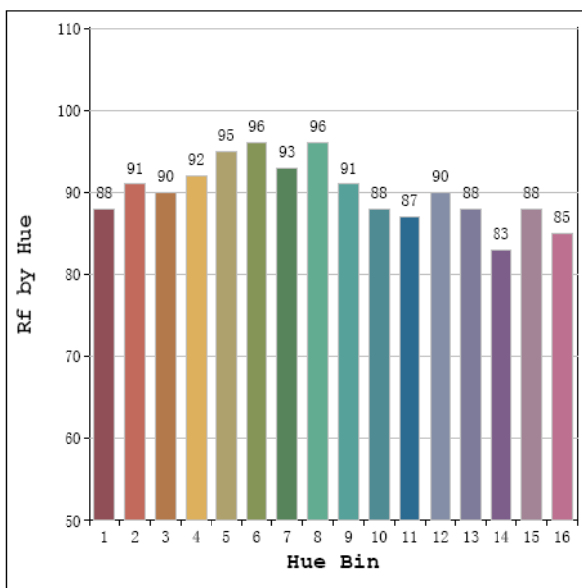
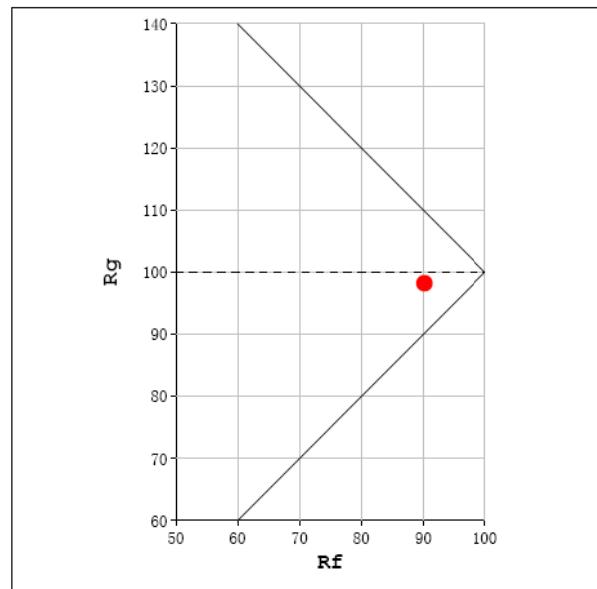
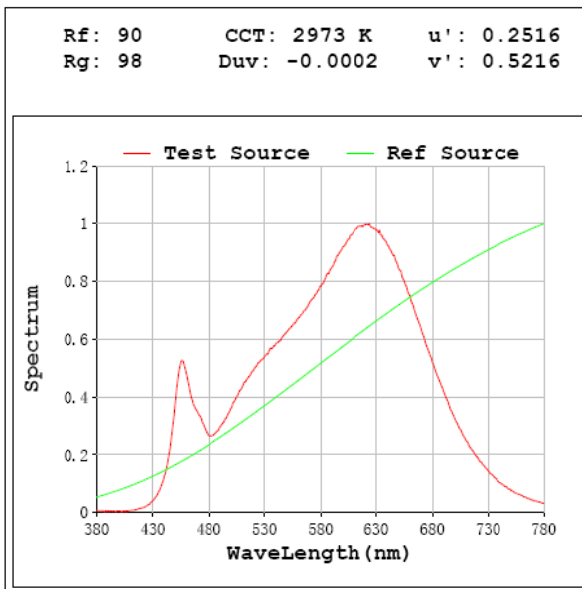
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	5303.0
Luminous Efficacy (lm/W)	94.87
Beam Angle (°)	72.4
Center Beam Candle Power (cd)	3309

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	5298
Luminous Efficacy (lm/W)	95.87

# Spectral Power Distribution & Chromaticity Diagram



## T30

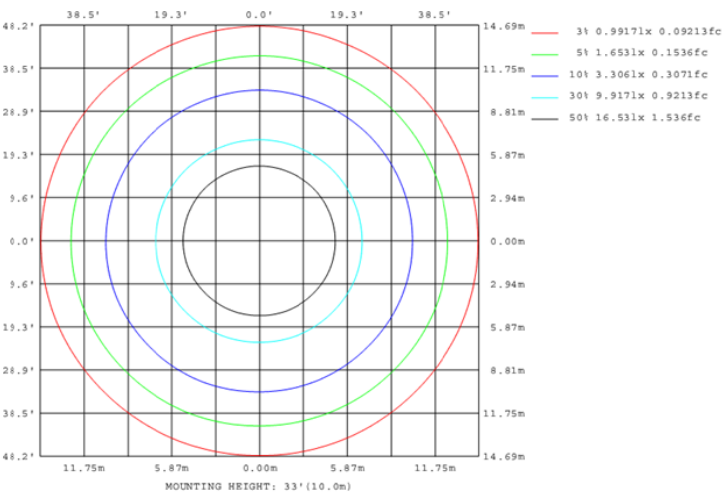
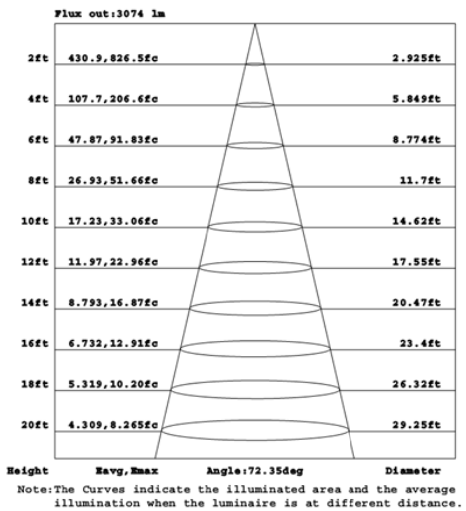
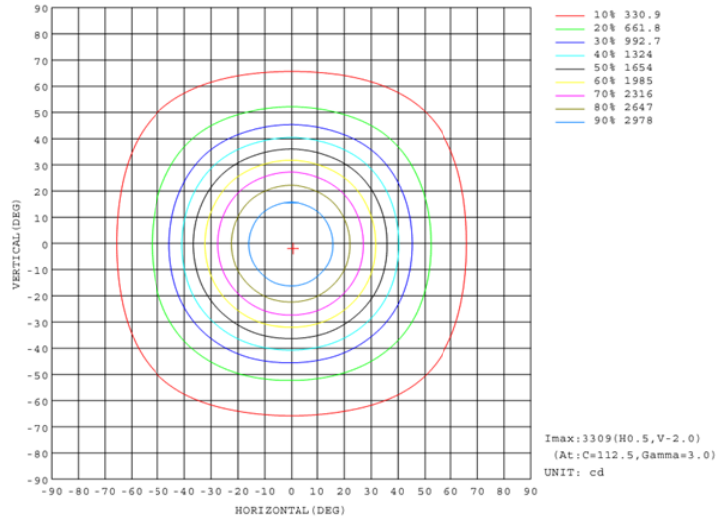
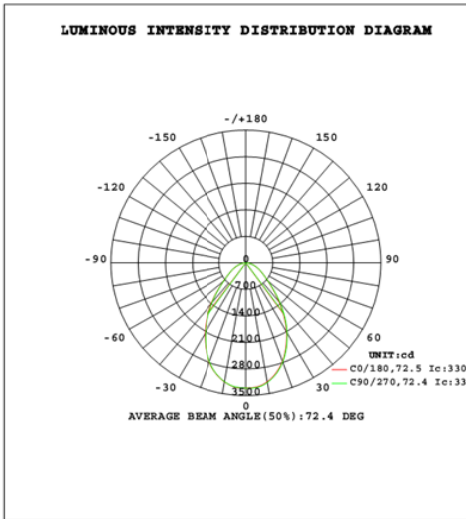


# Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	2288.7	43.2%
0-40	3376.8	63.7%
0-60	4689.0	88.4%
60-90	614.0	11.6%
70-100	269.8	5.1%
90-120	0.0	0.0%
0-90	5303.0	100.0%
90-180	0.0	0.0%
0-180	5303.0	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	310.8	5.9%	90-100	0.0	0.0%
10-20	845.8	15.9%	100-110	0.0	0.0%
20-30	1132.1	21.3%	110-120	0.0	0.0%
30-40	1088.1	20.5%	120-130	0.0	0.0%
40-50	793.7	15.0%	130-140	0.0	0.0%
50-60	518.5	9.8%	140-150	0.0	0.0%
60-70	344.2	6.5%	150-160	0.0	0.0%
70-80	193.2	3.6%	160-170	0.0	0.0%
80-90	76.7	1.4%	170-180	0.0	0.0%

## Photometric Data





## 2.1.2 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2020-09-11	<b>Test Ambient:</b>	25.3 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	DLC0042(C8R34/46/599FAUNVW) 3500K		

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202008310021	120.0	60	0.454	54.23	0.996

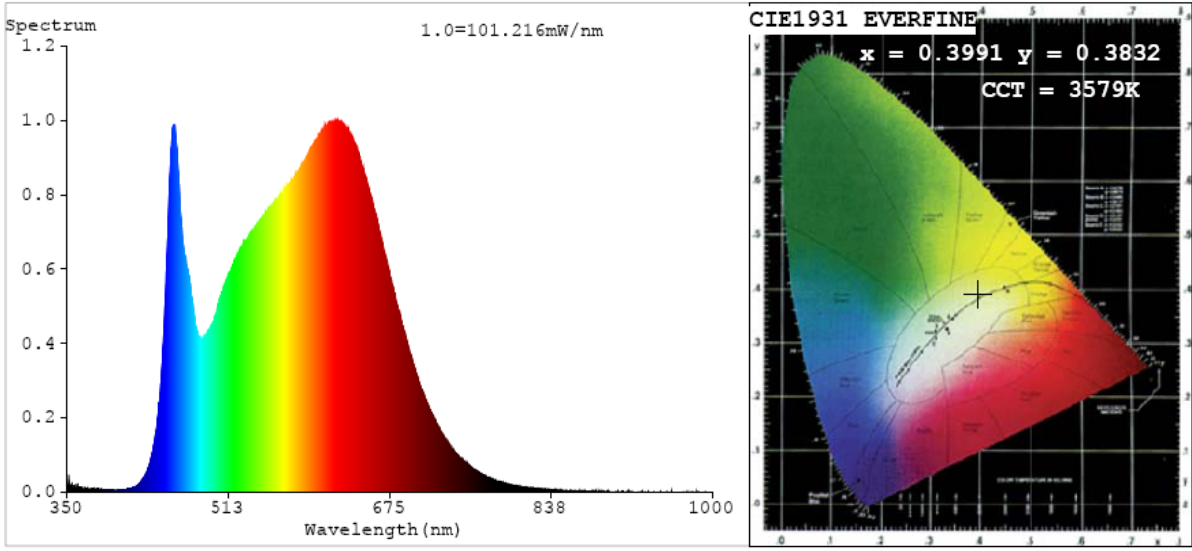
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3579
Duv	0.0019
Chromaticity (x, y)	x=0.3991 y=0.3832
Chromaticity (u', v')	u'=0.2348 v'=0.5072
Color Rendering Index (CRI)	94.5
R9	77
Total Luminous (lm)	5665
Luminous Efficacy (lm/W)	104.46

Special Color Rendering Indices			
R1	97	R9	77
R2	99	R10	99
R3	98	R11	94
R4	92	R12	74
R5	95	R13	99
R6	96	R14	100
R7	92	R15	95
R8	88	--	--

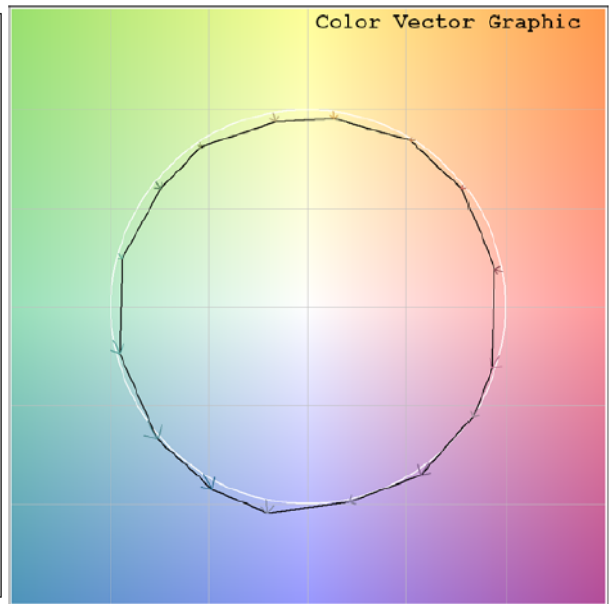
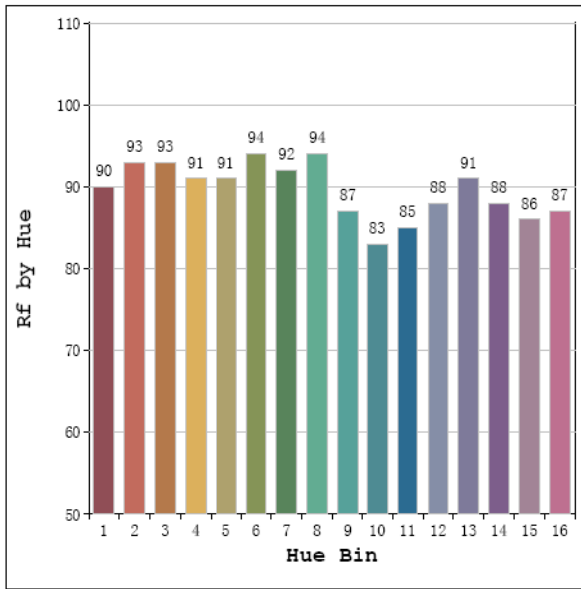
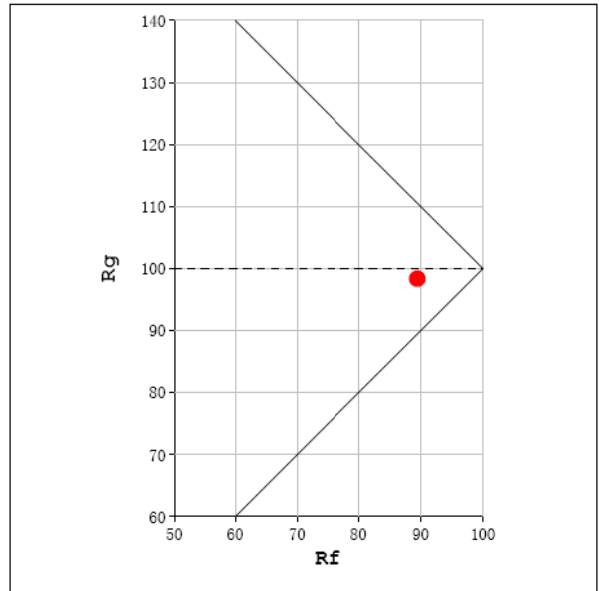
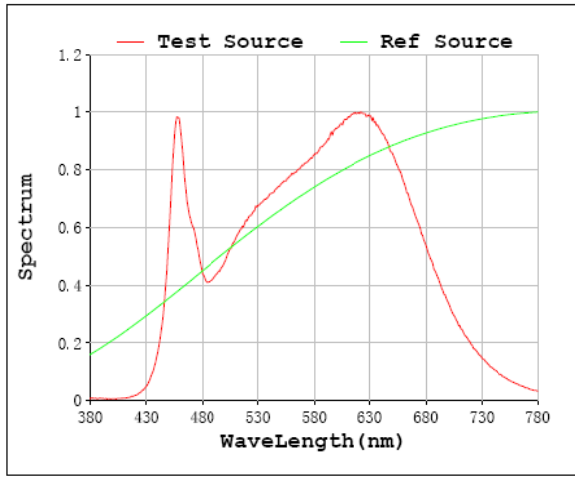
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	5661
Luminous Efficacy (lm/W)	105.64

## Spectral Power Distribution & Chromaticity Diagram



# T30

Rf: 89      CCT: 3579 K      u': 0.2348  
 Rg: 98      Duv: -0.0019      v': 0.5072





### 2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2020-09-11	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0042(C8R34/46/599FAUNVW) 4000K		

#### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
202008310021	120.0	60	0.452	54.08	0.996

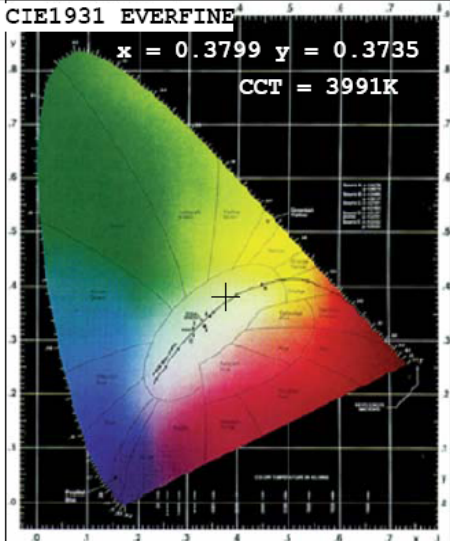
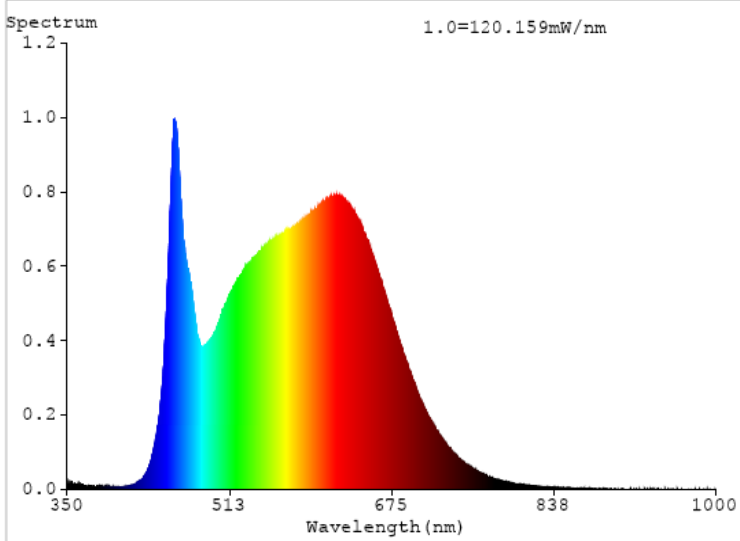
#### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3991
Duv	0.0014
Chromaticity (x, y)	x=0.3799 y=0.3735
Chromaticity (u', v')	u'=0.2260 v'=0.5001
Color Rendering Index (CRI)	94.5
R9	80
Total Luminous (lm)	5737
Luminous Efficacy (lm/W)	106.08

Special Color Rendering Indices			
R1	97	R9	80
R2	99	R10	99
R3	98	R11	93
R4	91	R12	71
R5	94	R13	99
R6	95	R14	100
R7	92	R15	95
R8	89	--	--

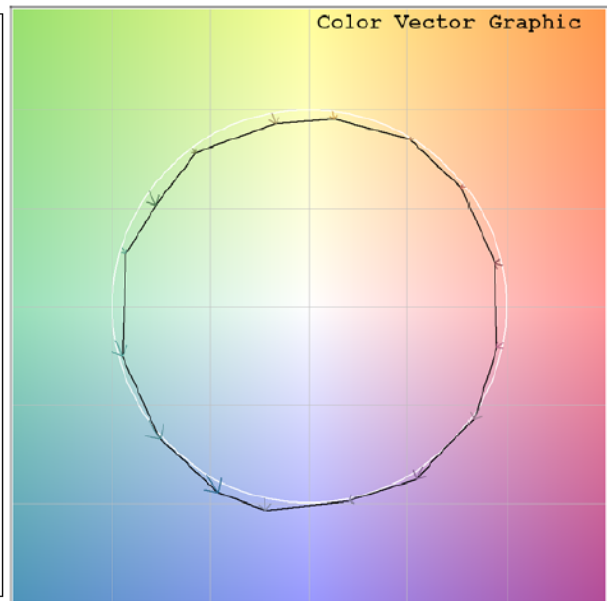
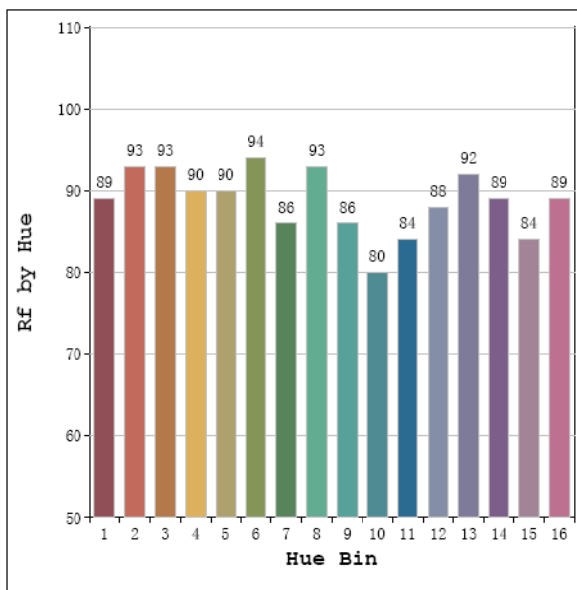
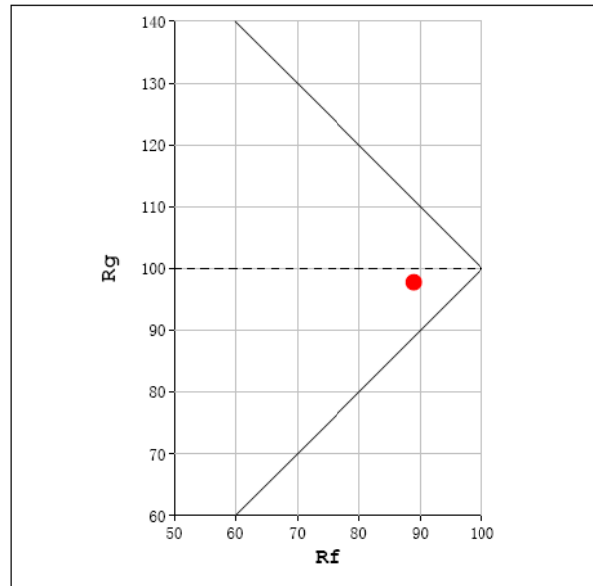
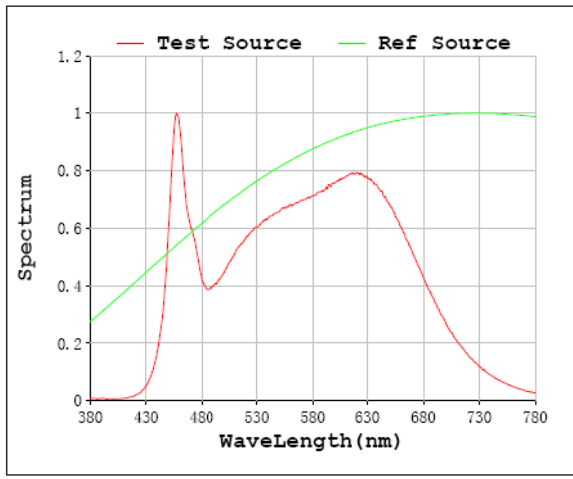
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	5741
Luminous Efficacy (lm/W)	107.36

### Spectral Power Distribution & Chromaticity Diagram



# T30

Rf: 89      CCT: 3991 K      u': 0.2260  
 Rg: 98      Duv: -0.0014      v': 0.5001



## 2.1.4 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2020-09-11	<b>Test Ambient:</b>	25.3 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	DLC0042(C8R34/46/599FAUNVW) 5000K		

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202008310021	120.0	60	0.470	56.11	0.996

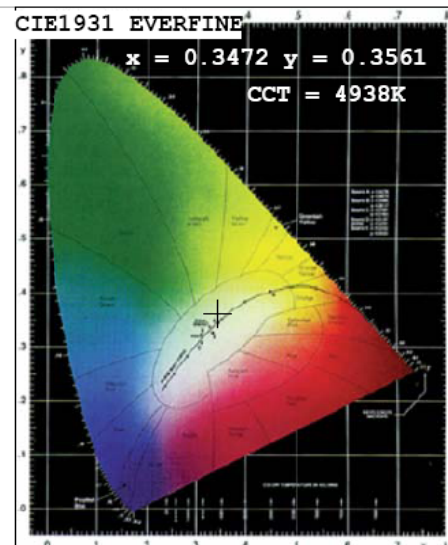
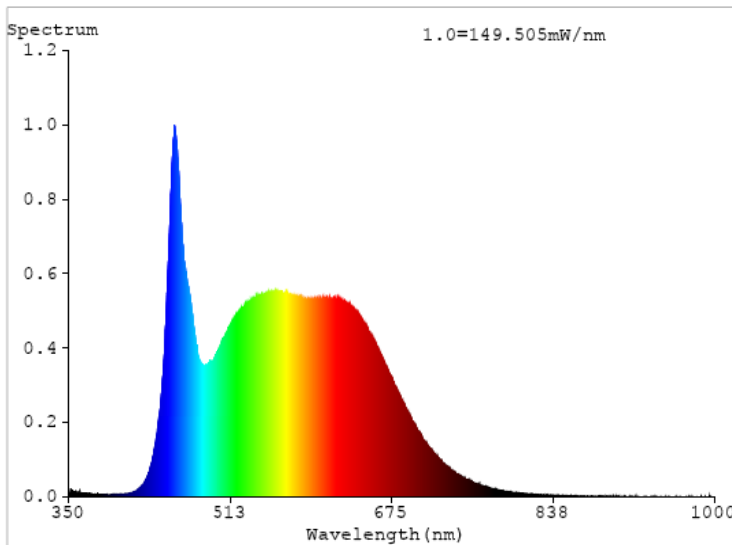
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4938
Duv	0.0014
Chromaticity (x, y)	x=0.3472 y=0.3561
Chromaticity (u', v')	u'=0.2111 v'=0.4871
Color Rendering Index (CRI)	93.3
R9	79
Total Luminous (lm)	5639
Luminous Efficacy (lm/W)	100.50

Special Color Rendering Indices			
R1	95	R9	79
R2	99	R10	95
R3	98	R11	89
R4	88	R12	64
R5	91	R13	97
R6	94	R14	99
R7	92	R15	92
R8	89	--	--

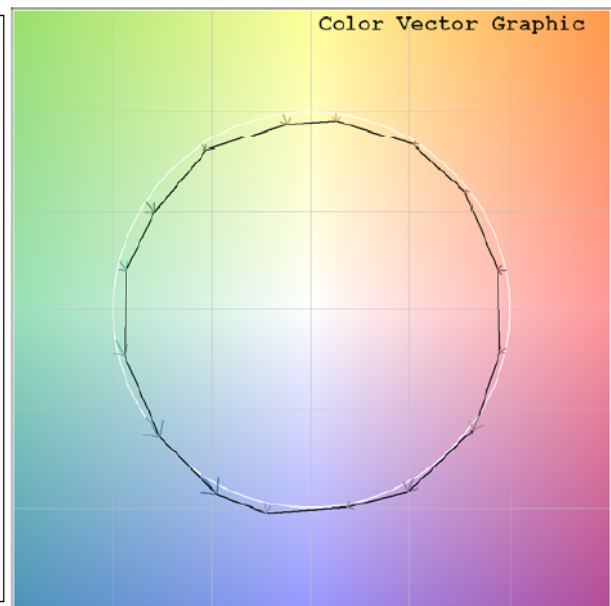
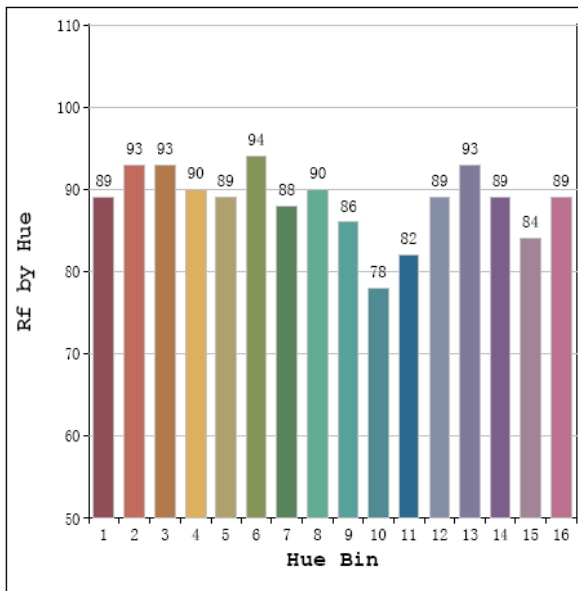
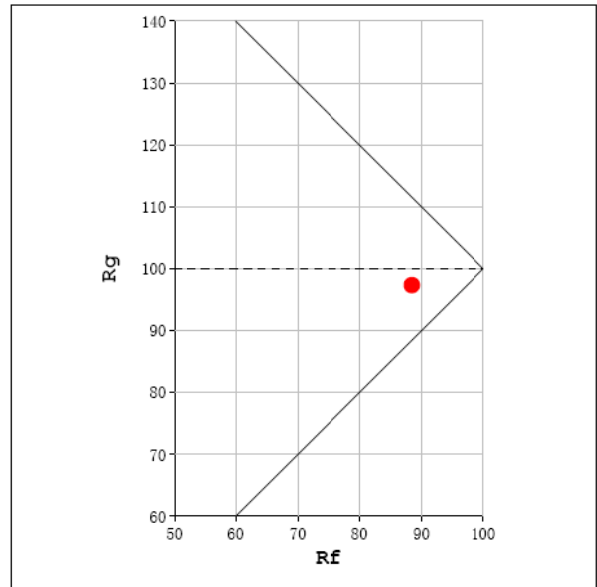
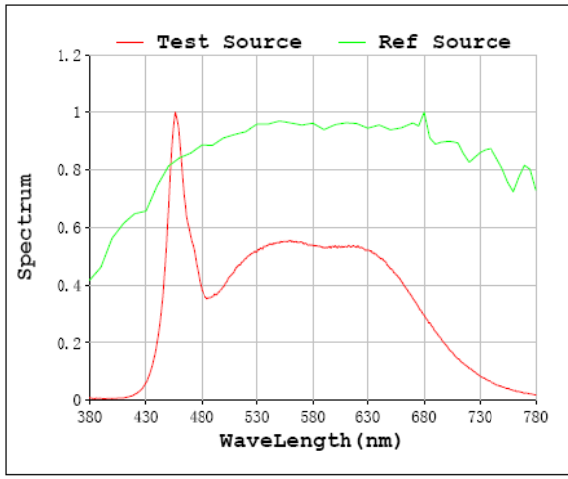
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	5633
Luminous Efficacy (lm/W)	101.58

## Spectral Power Distribution & Chromaticity Diagram



# T30

Rf: 88      CCT: 4938 K      u': 0.2111  
 Rg: 97      Duv: 0.0014      v': 0.4871



Sample No.	Wattage and CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
DLC0042(C8R34/46/599FAUNVW)	34W 3000K setting	120.0	3205.0	31.26	102.52
		277.0	3200.0	31.51	101.55
	46W 3000K setting	120.0	4265.0	43.21	98.70
		277.0	4273.0	43.15	99.04
	59W 3000K setting	120.0	5299.0	55.92	94.76
		277.0	5298.0	55.26	95.87
	59W 3500K setting	120.0	5665.0	54.23	104.46
		277.0	5661.0	53.59	105.64
	59W 4000K setting	120.0	5737.0	54.08	106.08
		277.0	5741.0	53.47	107.36
	59W 5000K setting	120.0	5639.0	56.11	100.50
		277.0	5633.0	55.45	101.58

### 3. Product Photo



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