

**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): DLR0043(R6R8840120WS)**

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

**Type of  
Luminaire:** Downlights

**Report Date:** 2019-09-30

**Prepared By:**

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

<b>1.1 Rated Values:</b>	
Rated Voltage / Frequency	120Vac, 50/60 Hz
Nominal Power	8.0W
Rated Initial Lamp Lumen	850 lm
Declared CCT	4000K

## 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

<p><b>1) Photometric and Light Distribution Measurement – Goniophotometer Method:</b></p> <p>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><b>2) Chromaticity Measurement – Sphere-Spectroradiometer Method:</b></p> <p>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><b>3) Electrical Measurements:</b></p> <p>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 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2019-09-28	<b>Test Ambient:</b>	25.5 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	DLR0043(R6R8840120WS)		

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1908250027	120.0	60	0.066	7.83	0.976

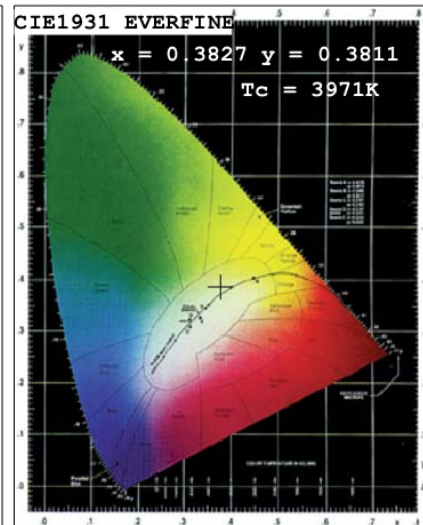
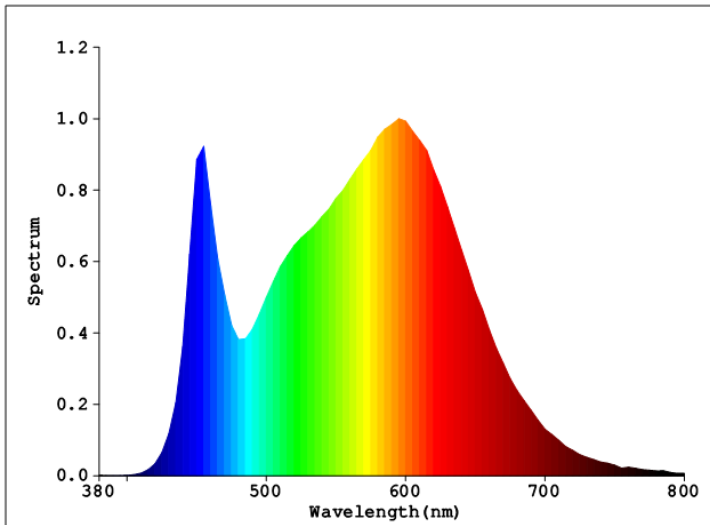
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	83	R9	12
Frequency (Hz)	60	R2	92	R10	81
CCT (K)	3971	R3	96	R11	81
Duv	0.00137	R4	82	R12	66
Chromaticity (x, y)	x=0.3827 y=0.3811	R5	83	R13	86
Chromaticity (u', v')	u'=0.2249 v'=0.5038	R6	89	R14	99
Color Rendering Index (CRI)	84.5	R7	86	R15	76
R9	12	R8	65	--	--

### Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	924.9
Luminous Efficacy (lm/W)	118.12
Beam Angle (°)	97.5
Center Beam Candle Power (cd)	387.9

## Spectral Power Distribution & Chromaticity Diagram

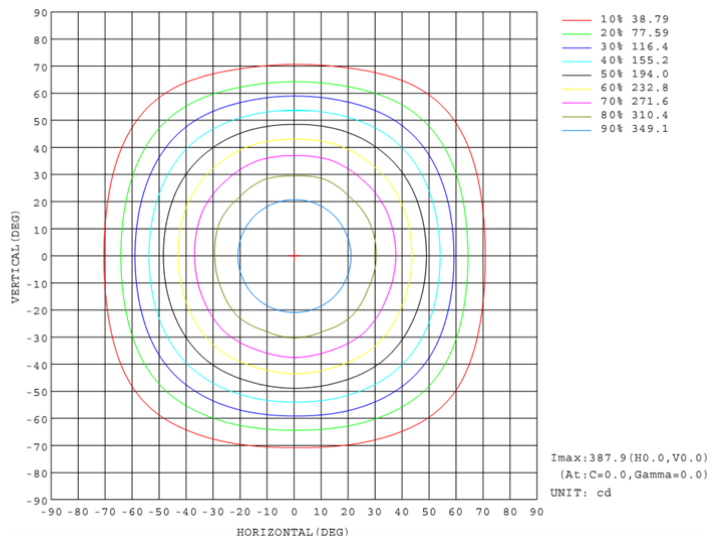
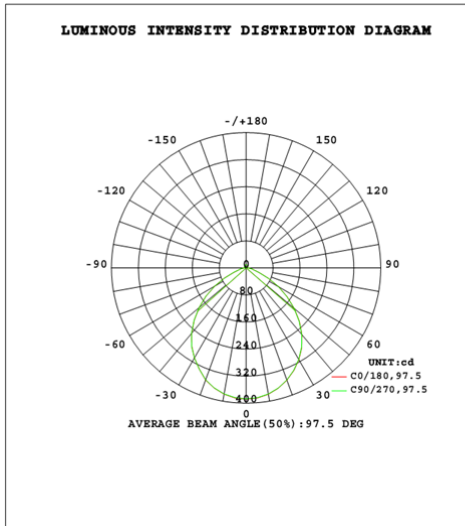


## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	293.2	31.7%
0-40	470.9	50.9%
0-60	772.2	83.5%
60-90	112.5	12.2%
70-100	45.4	4.9%
90-120	17.3	1.9%
0-90	884.7	95.7%
90-180	40.2	4.3%
0-180	924.9	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	36.6	4.0%	90-100	5.8	0.6%
10-20	103.6	11.2%	100-110	5.7	0.6%
20-30	153.1	16.6%	110-120	5.7	0.6%
30-40	177.7	19.2%	120-130	5.6	0.6%
40-50	170.0	18.4%	130-140	5.3	0.6%
50-60	131.3	14.2%	140-150	4.8	0.5%
60-70	72.9	7.9%	150-160	3.8	0.4%
70-80	27.8	3.0%	160-170	2.6	0.3%
80-90	11.7	1.3%	170-180	0.9	0.1%

# Photometric Data



**Flux out: 640.9 lm**

Height	Havg, Rmax	Angle: 97.39deg	Diameter
1ft	143.6, 387.9fc		2.276ft
2ft	35.91, 96.99fc		4.552ft
3ft	15.96, 43.10fc		6.828ft
4ft	8.978, 24.25fc		9.104ft
5ft	5.746, 15.52fc		11.38ft
6ft	3.990, 10.78fc		13.66ft
7ft	2.931, 7.917fc		15.93ft
8ft	2.244, 6.062fc		18.21ft
9ft	1.773, 4.789fc		20.48ft
10ft	1.436, 3.879fc		22.76ft

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

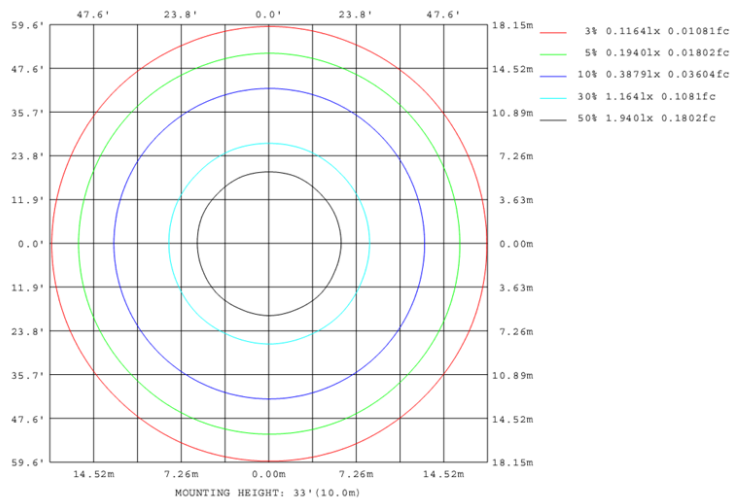
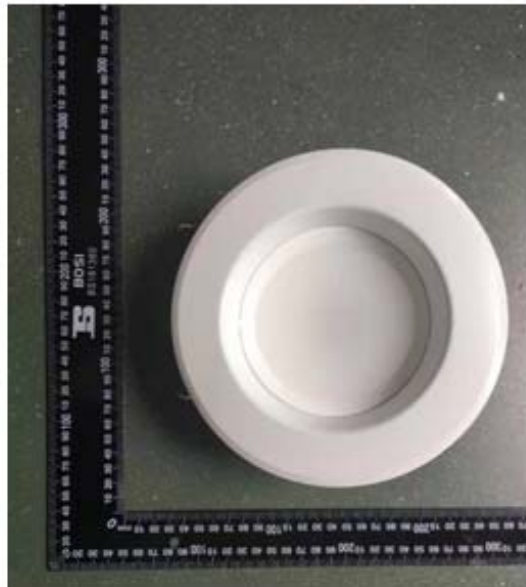
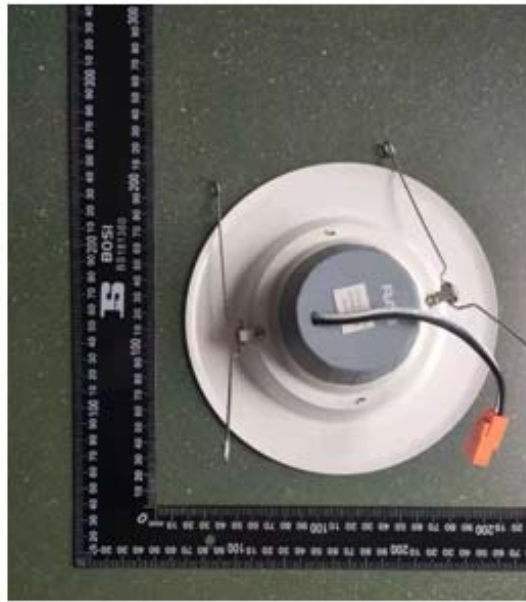


Table--1

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	388	388	388	387	387	387	387	387	388	388	388	387	387	387	387	387				
5	386	386	385	385	385	385	385	385	386	385	385	385	385	385	385	385				
10	379	379	379	379	379	379	378	378	379	378	378	378	378	378	378	378				
15	368	369	368	368	368	368	367	367	368	367	367	367	367	367	368	367				
20	353	354	353	354	353	353	352	353	353	352	352	351	352	352	353	352				
25	335	332	335	331	334	331	334	330	330	333	330	333	330	333	331	334				
30	313	309	313	309	312	308	312	308	308	311	307	311	308	312	308	312				
35	288	285	288	284	287	284	286	283	282	285	282	285	283	286	284	287				
40	258	255	258	255	257	254	256	253	253	255	252	255	253	256	254	257				
45	224	222	224	221	223	220	221	219	218	220	218	220	219	222	220	223				
50	187	186	187	186	186	184	185	183	183	183	182	183	183	185	184	186				
55	148	149	149	149	147	148	146	146	146	145	145	144	146	146	148	147				
60	111	112	111	112	110	110	108	109	109	107	108	107	108	108	110	110				
65	73.2	74.6	73.7	74.5	73.1	73.3	71.5	71.6	71.5	70.1	70.9	70.1	71.7	71.5	73.2	73.0				
70	41.9	42.8	42.2	42.8	41.7	42.0	40.6	40.7	40.4	39.4	40.0	39.7	40.9	40.8	42.0	41.7				
75	24.2	24.7	24.3	24.6	24.1	24.2	23.6	23.6	23.4	23.0	23.3	23.1	23.6	23.5	24.1	24.0				
80	16.5	16.6	16.6	16.7	16.5	16.6	16.3	16.3	16.2	16.1	16.2	16.1	16.3	16.3	16.5	16.4				
85	10.6	10.8	10.6	10.8	10.5	10.6	10.2	10.3	10.6	10.4	10.6	10.5	10.7	10.7	11.0	10.9				
90	5.29	5.25	5.27	5.24	5.26	5.21	5.23	5.21	5.67	5.69	5.68	5.70	5.67	5.68	5.66	5.69				
95	5.03	5.00	5.02	4.99	5.01	4.98	5.00	4.98	5.66	5.65	5.66	5.66	5.64	5.63	5.63	5.64				
100	4.93	4.93	4.93	4.92	4.92	4.91	4.92	4.91	5.71	5.70	5.71	5.71	5.69	5.67	5.68	5.67				
105	4.94	4.95	4.94	4.94	4.94	4.94	4.94	4.94	5.83	5.83	5.83	5.83	5.82	5.80	5.80	5.80				
110	5.06	5.06	5.05	5.06	5.04	5.06	5.05	5.06	6.02	6.01	6.01	6.01	6.00	5.98	5.98	5.98				
115	5.25	5.25	5.23	5.25	5.23	5.24	5.24	5.25	6.24	6.23	6.25	6.23	6.23	6.21	6.21	6.20				
120	5.48	5.49	5.47	5.49	5.48	5.49	5.48	5.51	6.50	6.48	6.49	6.48	6.47	6.45	6.45	6.45				
125	5.77	5.78	5.76	5.78	5.77	5.78	5.77	5.78	6.77	6.76	6.76	6.75	6.74	6.73	6.73	6.73				
130	6.08	6.08	6.07	6.08	6.07	6.08	6.08	6.09	7.05	7.04	7.04	7.03	7.03	7.01	7.01	7.00				
135	6.42	6.41	6.41	6.41	6.41	6.41	6.41	6.42	7.36	7.34	7.35	7.33	7.34	7.31	7.31	7.31				
140	6.78	6.77	6.76	6.76	6.76	6.76	6.78	6.79	7.68	7.67	7.66	7.65	7.65	7.63	7.63	7.63				
145	7.15	7.14	7.14	7.14	7.13	7.15	7.15	7.16	8.01	8.00	7.99	7.98	7.97	7.96	7.96	7.95				
150	7.55	7.54	7.53	7.54	7.53	7.54	7.55	7.56	8.35	8.34	8.33	8.32	8.31	8.30	8.29	8.29				
155	7.98	7.97	7.97	7.96	7.96	7.97	7.98	7.98	8.69	8.67	8.67	8.66	8.66	8.65	8.64	8.64				
160	8.43	8.41	8.41	8.40	8.41	8.41	8.42	8.43	9.00	8.99	8.98	8.98	8.98	8.97	8.96	8.96				
165	8.86	8.85	8.84	8.84	8.83	8.84	8.85	8.86	9.28	9.26	9.27	9.26	9.25	9.25	9.24	9.23				
170	9.23	9.21	9.21	9.20	9.20	9.21	9.21	9.21	9.50	9.48	9.47	9.47	9.46	9.46	9.46	9.46				
175	9.50	9.48	9.48	9.47	9.47	9.47	9.48	9.48	9.63	9.61	9.61	9.60	9.59	9.59	9.59	9.59				
180	9.66	9.65	9.63	9.63	9.63	9.63	9.63	9.63	9.66	9.64	9.63	9.63	9.62	9.63	9.63	9.63				

### 3. Product Photo



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