

**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): DLR0064(R6R14927120WS)**

**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	14.0W
Rated Initial Lamp Lumen	1200 lm
Declared CCT	2700K

## 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>	DLR0064(R6R14927120WS)		

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1908250048	120.0	60	0.1180	13.90	0.982

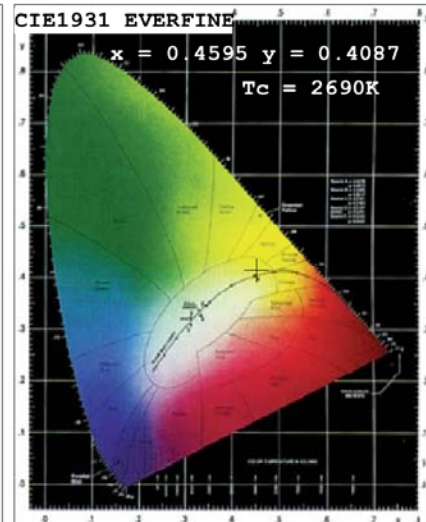
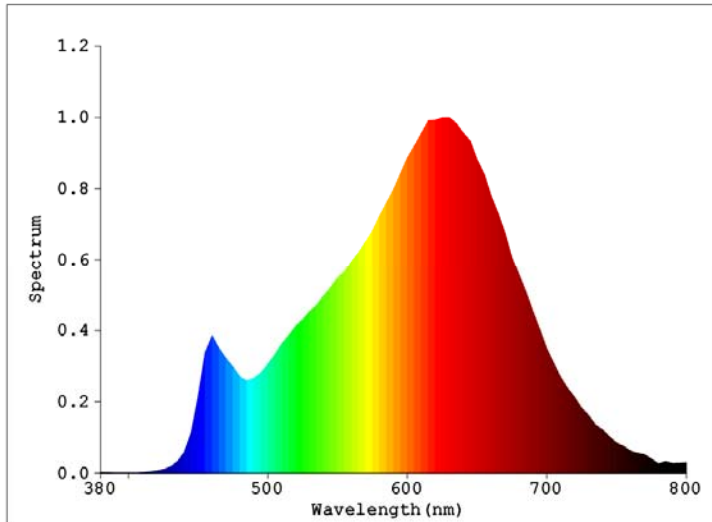
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	96	R9	66
Frequency (Hz)	60	R2	99	R10	99
CCT (K)	2690	R3	96	R11	95
Duv	0.00069	R4	93	R12	83
Chromaticity (x, y)	x=0.4595 y=0.4087	R5	95	R13	97
Chromaticity (u', v')	u'=0.2632 v'=0.5266	R6	96	R14	99
Color Rendering Index (CRI)	93.5	R7	90	R15	91
R9	66	R8	83	--	--

### Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1231.0
Luminous Efficacy (lm/W)	88.56
Beam Angle (°)	98.6
Center Beam Candle Power (cd)	509.2

## Spectral Power Distribution & Chromaticity Diagram

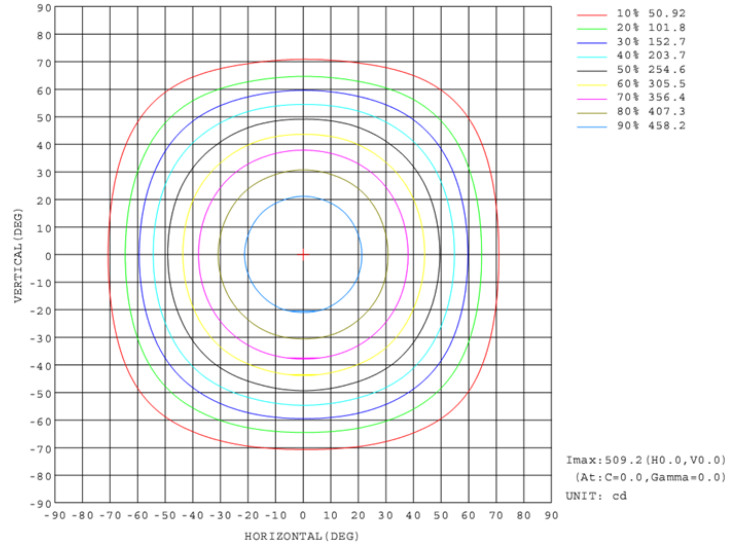
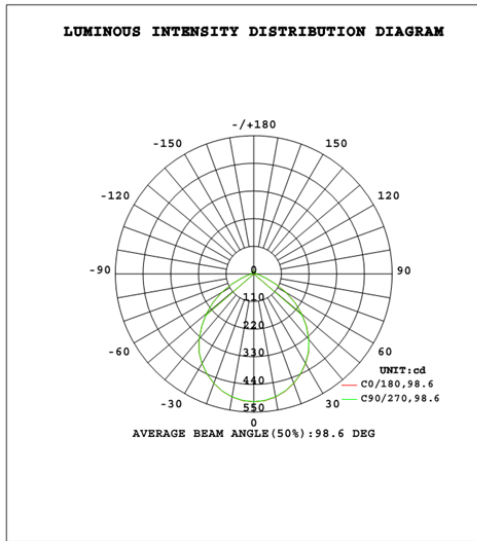


## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	386.7	31.4%
0-40	623.2	50.6%
0-60	1027.8	83.5%
60-90	150.2	12.2%
70-100	59.6	4.8%
90-120	22.8	1.9%
0-90	1177.9	95.7%
90-180	53.1	4.3%
0-180	1231.0	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	48.0	3.9%	90-100	7.8	0.6%
10-20	136.1	11.1%	100-110	7.6	0.6%
20-30	202.5	16.5%	110-120	7.5	0.6%
30-40	236.6	19.2%	120-130	7.4	0.6%
40-50	226.9	18.4%	130-140	7.0	0.6%
50-60	177.6	14.4%	140-150	6.3	0.5%
60-70	98.3	8.0%	150-160	5.1	0.4%
70-80	36.4	3.0%	160-170	3.4	0.3%
80-90	15.5	1.3%	170-180	1.2	0.1%

# Photometric Data



Flux out: 850.2 lm

Height	Havg, Hmax	Angle: 98.47deg	Diameter
1ft	190.5, 509.2fc		2.32ft
2ft	47.63, 127.3fc		4.639ft
3ft	21.17, 56.57fc		6.959ft
4ft	11.91, 31.82fc		9.279ft
5ft	7.621, 20.37fc		11.6ft
6ft	5.293, 14.14fc		13.92ft
7ft	3.888, 10.39fc		16.24ft
8ft	2.977, 7.956fc		18.56ft
9ft	2.352, 6.286fc		20.88ft
10ft	1.905, 5.092fc		23.2ft

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

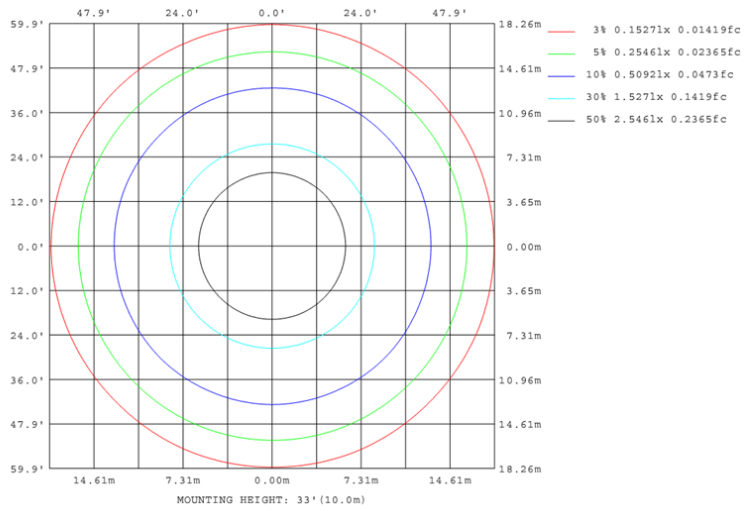
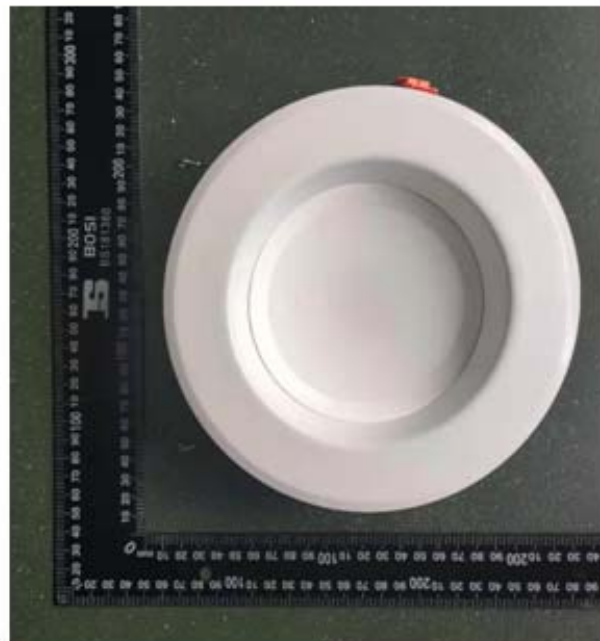
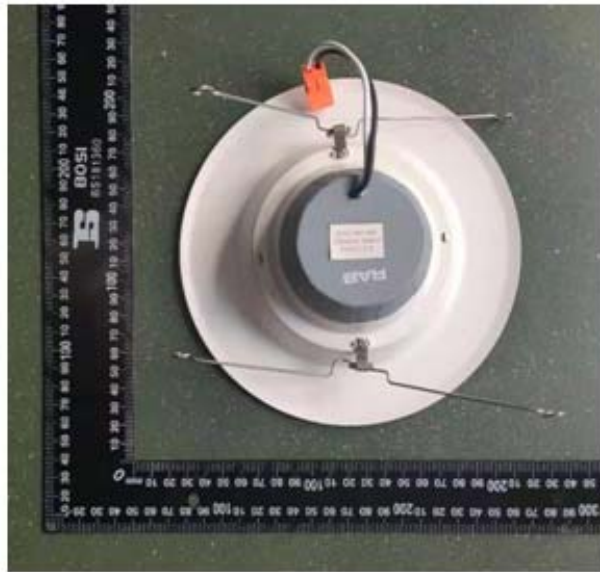


Table--1

UNIT: cd

C (DEG) γ (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	509	509	509	508	508	508	509	508	509	509	509	508	508	508	509	508			
5	506	506	506	506	505	506	505	505	506	506	506	506	506	506	506	506			
10	498	498	497	497	497	497	497	497	498	497	497	497	497	497	497	497			
15	483	484	483	483	482	483	482	483	483	483	483	482	483	483	483	483			
20	464	465	463	464	463	464	463	463	464	463	464	463	464	463	464	464			
25	440	441	440	440	439	440	439	440	441	440	440	439	440	439	440	440			
30	412	413	411	412	411	412	411	412	413	412	412	411	412	411	413	412			
35	380	381	379	380	379	380	379	380	381	379	380	379	380	379	381	380			
40	341	341	340	340	340	339	339	339	339	339	339	339	339	339	340	340			
45	297	294	297	294	296	293	295	292	292	295	292	295	292	296	293	297			
50	250	248	250	248	249	246	248	245	246	248	246	248	246	249	248	250			
55	202	201	202	200	200	198	199	197	197	199	197	199	198	201	200	202			
60	149	151	149	150	148	148	146	147	147	145	147	146	148	148	150	149			
65	98.8	100	98.2	99.0	96.8	97.5	95.5	96.2	96.8	95.2	96.8	95.9	98.1	97.6	99.8	99.2			
70	55.4	56.3	55.0	55.6	54.1	54.6	53.3	53.9	54.3	53.1	54.1	53.4	54.9	54.7	56.3	55.9			
75	31.1	31.5	31.0	31.3	30.6	30.9	30.2	30.4	30.6	30.1	30.5	30.2	30.9	30.8	31.4	31.2			
80	21.8	22.0	21.7	21.8	21.5	21.6	21.4	21.5	21.7	21.4	21.5	21.4	21.6	21.7	22.0	22.0			
85	13.8	14.1	13.8	14.0	13.6	13.8	13.4	13.6	14.2	13.9	14.2	14.0	14.3	14.2	14.6	14.5			
90	6.91	6.89	6.90	6.88	6.88	6.88	6.87	6.87	7.60	7.61	7.59	7.62	7.62	7.64	7.63	7.63			
95	6.59	6.58	6.58	6.57	6.57	6.57	6.57	6.56	7.55	7.55	7.54	7.56	7.55	7.55	7.55	7.55			
100	6.47	6.46	6.46	6.46	6.46	6.46	6.46	6.46	7.60	7.59	7.58	7.60	7.59	7.60	7.58	7.60			
105	6.51	6.50	6.50	6.49	6.50	6.49	6.50	6.50	7.74	7.75	7.73	7.74	7.73	7.74	7.73	7.74			
110	6.67	6.65	6.65	6.64	6.65	6.65	6.66	6.65	7.97	7.97	7.95	7.97	7.95	7.96	7.95	7.96			
115	6.92	6.90	6.91	6.89	6.90	6.89	6.92	6.91	8.26	8.26	8.25	8.25	8.24	8.25	8.23	8.24			
120	7.24	7.22	7.23	7.21	7.23	7.23	7.24	7.24	8.57	8.58	8.56	8.57	8.56	8.56	8.54	8.56			
125	7.62	7.59	7.60	7.59	7.60	7.60	7.62	7.61	8.93	8.93	8.91	8.92	8.90	8.91	8.90	8.91			
130	8.02	7.99	8.01	7.99	8.00	8.00	8.02	8.02	9.29	9.29	9.27	9.28	9.27	9.28	9.26	9.27			
135	8.45	8.42	8.44	8.42	8.45	8.43	8.45	8.45	9.67	9.68	9.66	9.68	9.65	9.67	9.64	9.66			
140	8.92	8.90	8.92	8.90	8.92	8.91	8.93	8.92	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1			
145	9.44	9.42	9.43	9.42	9.44	9.42	9.45	9.44	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5			
150	9.98	9.96	9.97	9.96	9.98	9.97	9.99	9.98	11.0	11.0	11.0	11.0	10.9	10.9	10.9	10.9			
155	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4			
160	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8			
165	11.6	11.6	11.6	11.6	11.6	11.6	11.7	11.6	12.2	12.2	12.2	12.2	12.1	12.2	12.1	12.2			
170	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.5	12.5	12.5	12.4	12.4	12.4	12.4	12.4			
175	12.5	12.5	12.5	12.5	12.5	12.4	12.5	12.5	12.7	12.6	12.6	12.6	12.6	12.6	12.6	12.6			
180	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7			

### 3. Product Photo



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