

**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): DLR0081(R6S10930120WB)**

**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	10.0W
Rated Initial Lamp Lumen	900 lm
Declared CCT	3000K

## 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

Test date	2019-09-28	Test Ambient:	25.6 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLR0081(R6S10930120WB)		

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1908250065	120.0	60	0.083	9.76	0.979

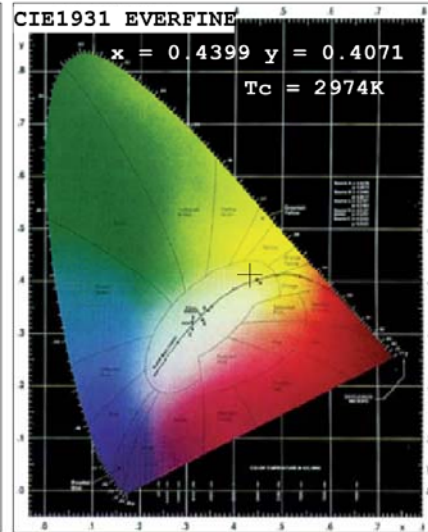
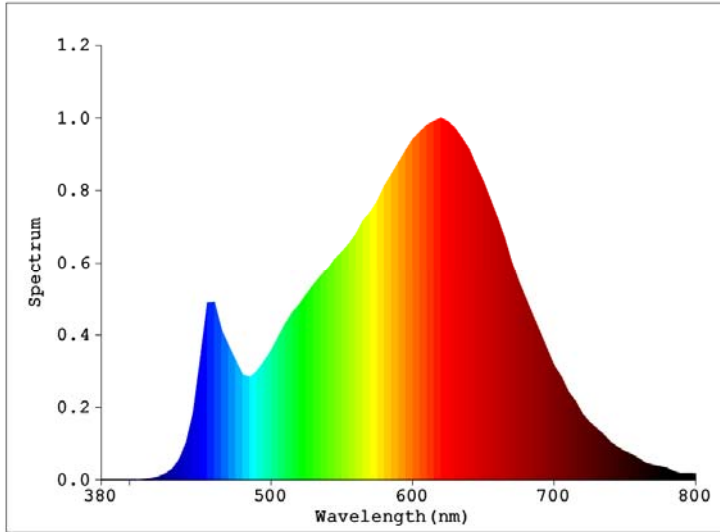
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	92	R9	55
Frequency (Hz)	60	R2	98	R10	93
CCT (K)	2974	R3	98	R11	90
Duv	0.00078	R4	90	R12	78
Chromaticity (x, y)	x=0.4399 y=0.4071	R5	91	R13	94
Chromaticity (u', v')	u'=0.2512 v'=0.5230	R6	96	R14	100
Color Rendering Index (CRI)	91.8	R7	90	R15	88
R9	55	R8	79	--	--

### Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	917.50
Luminous Efficacy (lm/W)	94.01
Beam Angle (°)	115.4
Center Beam Candle Power (cd)	283.7

## Spectral Power Distribution & Chromaticity Diagram



## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	220.6	24.0%
0-40	362.4	39.5%
0-60	648.5	70.7%
60-90	188.3	20.5%
70-100	95.6	10.4%
90-120	38.9	4.2%
0-90	836.8	91.2%
90-180	80.7	8.8%
0-180	917.5	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	26.8	2.9%	90-100	13.6	1.5%
10-20	77.0	8.4%	100-110	13.0	1.4%
20-30	116.7	12.7%	110-120	12.3	1.3%
30-40	141.8	15.5%	120-130	11.3	1.2%
40-50	149.0	16.2%	130-140	10.1	1.1%
50-60	137.2	14.9%	140-150	8.5	0.9%
60-70	106.3	11.6%	150-160	6.5	0.7%
70-80	60.6	6.6%	160-170	4.1	0.4%
80-90	21.4	2.3%	170-180	1.4	0.2%

# Photometric Data

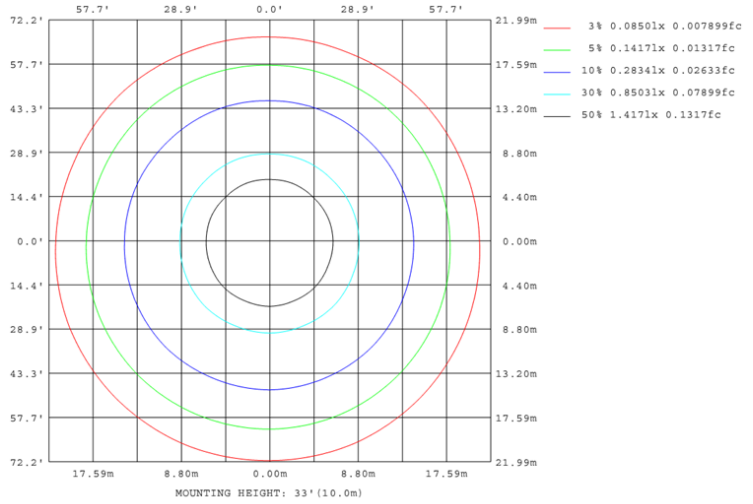
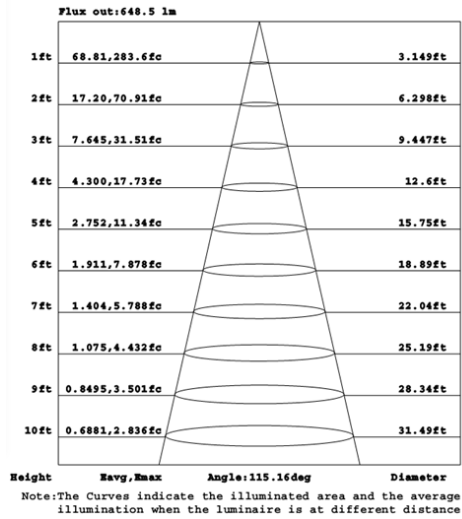
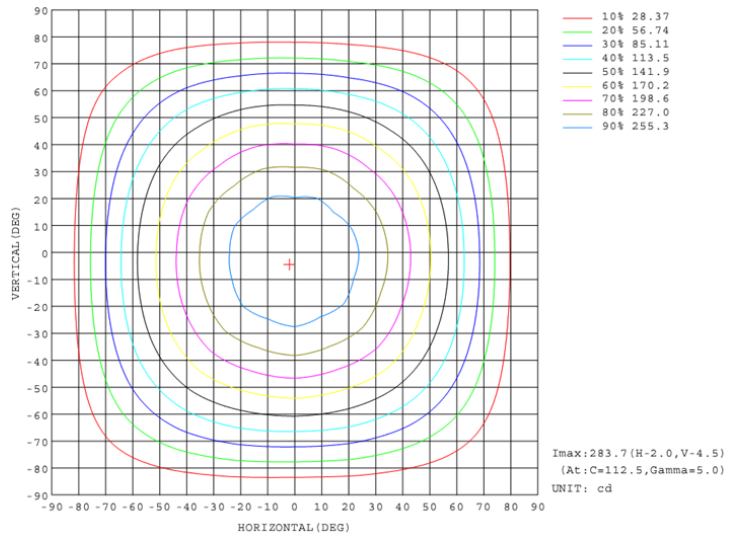
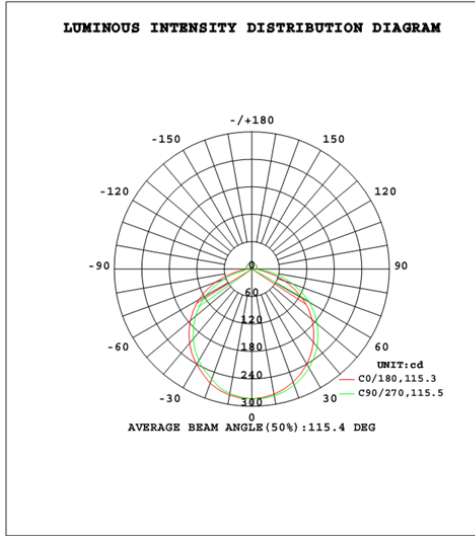
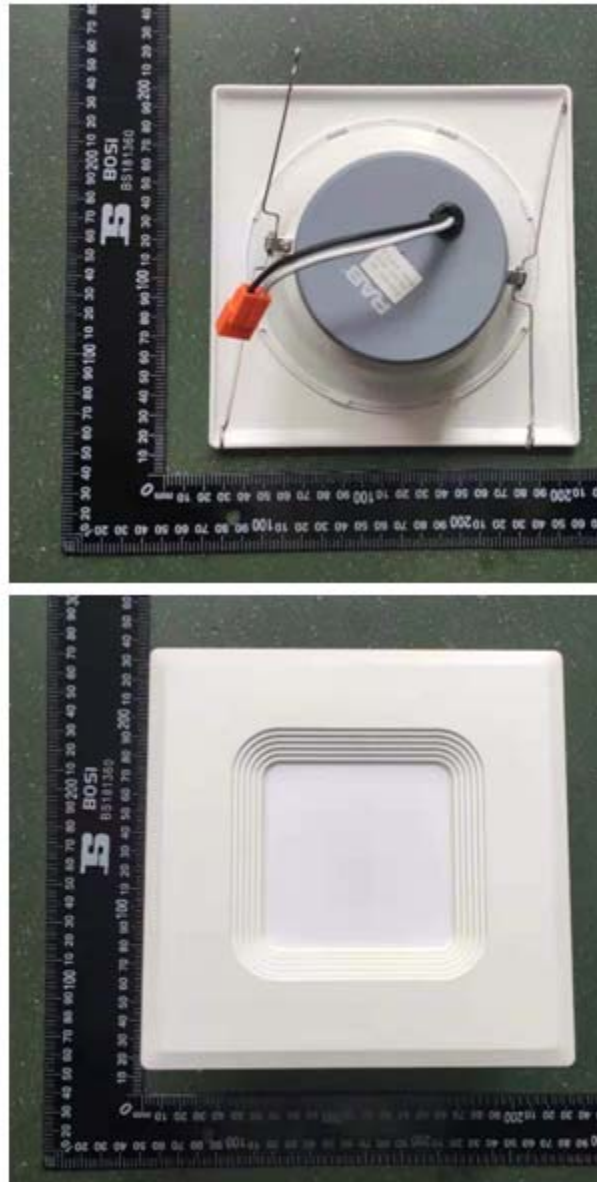


Table--1

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	283	283	283	283	284	283	284	284	283	283	283	284	283	284	284				
5	282	282	283	283	284	284	284	283	283	282	282	281	281	281	281				
10	278	279	280	281	281	282	281	281	280	278	278	276	276	276	276	277			
15	272	274	275	276	277	277	277	276	274	272	271	269	269	269	269	270			
20	263	265	267	270	270	271	270	269	266	264	260	260	256	259	256	261			
25	253	252	258	257	261	259	261	256	253	254	248	249	245	248	245	250			
30	240	240	246	246	250	247	250	245	241	241	235	236	231	234	232	237			
35	226	226	233	233	237	234	236	231	228	227	221	221	216	219	217	222			
40	209	211	217	218	222	220	221	216	212	211	205	204	199	201	201	206			
45	191	193	200	201	205	203	205	199	194	193	187	185	181	183	182	187			
50	172	175	181	183	186	185	186	181	176	173	167	165	161	163	163	168			
55	151	155	161	163	167	166	166	161	156	153	147	144	140	141	142	147			
60	127	133	139	142	146	145	145	140	134	129	125	120	117	117	120	123			
65	102	110	116	120	121	123	121	117	110	105	102	95.6	92.3	92.2	96.7	98.6			
70	77.3	84.7	91.8	95.6	95.8	97.9	97.5	92.7	85.2	79.8	76.4	70.7	67.3	67.2	71.0	73.8			
75	51.8	59.4	65.7	70.5	70.6	72.6	71.4	67.5	59.9	54.5	50.6	45.1	41.8	41.9	45.4	48.2			
80	26.6	33.9	39.8	44.6	44.8	47.0	45.3	41.5	34.3	29.0	25.8	21.2	19.1	19.0	21.6	23.6			
85	14.6	15.9	18.1	20.8	21.0	22.4	21.3	18.8	16.1	14.8	14.2	13.7	13.5	13.5	13.7	14.0			
90	12.4	12.7	13.1	13.6	13.8	13.9	13.6	13.3	12.9	12.5	12.5	12.5	12.5	12.5	12.5	12.5			
95	12.2	12.2	12.3	12.3	12.3	12.3	12.3	12.2	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.4			
100	12.0	12.1	12.1	12.1	12.1	12.1	12.1	12.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5			
105	12.0	12.0	12.0	12.0	12.0	12.0	11.9	11.9	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.5			
110	12.0	12.0	12.0	11.9	11.9	11.9	11.9	11.9	12.7	12.7	12.7	12.7	12.7	12.7	12.6	12.6			
115	12.0	12.0	12.0	12.0	11.9	11.9	11.9	11.9	12.7	12.8	12.8	12.8	12.8	12.8	12.7	12.7			
120	12.2	12.1	12.1	12.0	12.0	12.0	12.0	12.0	12.9	12.9	12.9	12.9	12.9	12.9	12.8	12.8			
125	12.3	12.3	12.2	12.2	12.1	12.1	12.1	12.1	13.0	13.0	13.1	13.1	13.1	13.1	13.0	13.0			
130	12.5	12.5	12.4	12.4	12.3	12.3	12.3	12.3	13.2	13.2	13.2	13.3	13.3	13.2	13.2	13.1			
135	12.8	12.7	12.6	12.6	12.5	12.5	12.5	12.5	13.4	13.4	13.5	13.5	13.5	13.5	13.4	13.4			
140	13.0	13.0	12.9	12.8	12.8	12.7	12.7	12.7	13.6	13.6	13.7	13.7	13.7	13.7	13.6	13.6			
145	13.3	13.2	13.2	13.1	13.1	13.0	13.0	13.0	13.8	13.9	13.9	13.9	13.9	13.9	13.9	13.8			
150	13.6	13.5	13.5	13.4	13.4	13.3	13.3	13.3	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.0			
155	13.9	13.8	13.8	13.7	13.7	13.6	13.6	13.6	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.2			
160	14.2	14.1	14.0	14.0	13.9	13.9	13.9	13.9	14.5	14.5	14.5	14.5	14.5	14.5	14.4	14.4			
165	14.4	14.4	14.3	14.2	14.2	14.2	14.2	14.2	14.6	14.6	14.6	14.7	14.6	14.6	14.6	14.5			
170	14.6	14.6	14.5	14.5	14.5	14.4	14.4	14.4	14.8	14.8	14.8	14.7	14.7	14.7	14.7	14.6			
175	14.8	14.7	14.7	14.7	14.6	14.6	14.6	14.6	14.8	14.8	14.8	14.8	14.8	14.7	14.7	14.7			
180	14.9	14.9	14.8	14.8	14.8	14.8	14.7	14.7	14.9	14.8	14.8	14.8	14.8	14.8	14.7	14.7			

### 3. Product Photo



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