

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): DLR0075(R6S10830120WB)

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

**Type of
Luminaire:** Downlights

Report Date: 2019-09-30

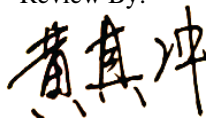
Prepared By:

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120Vac, 50/60 Hz
Nominal Power	10.0W
Rated Initial Lamp Lumen	1000 lm
Declared CCT	3000K

1.2 Test Specifications:

Test item	<ol style="list-style-type: none"> 1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none"> 1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

1.3 Test Methods

<p>1) Photometric and Light Distribution Measurement – Goniophotometer Method:</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>2) Chromaticity Measurement – Sphere-Spectroradiometer Method:</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>3) Electrical Measurements:</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	DLR0075(R6S10830120WB)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1908250059	120.0	60	0.083	9.76	0.980

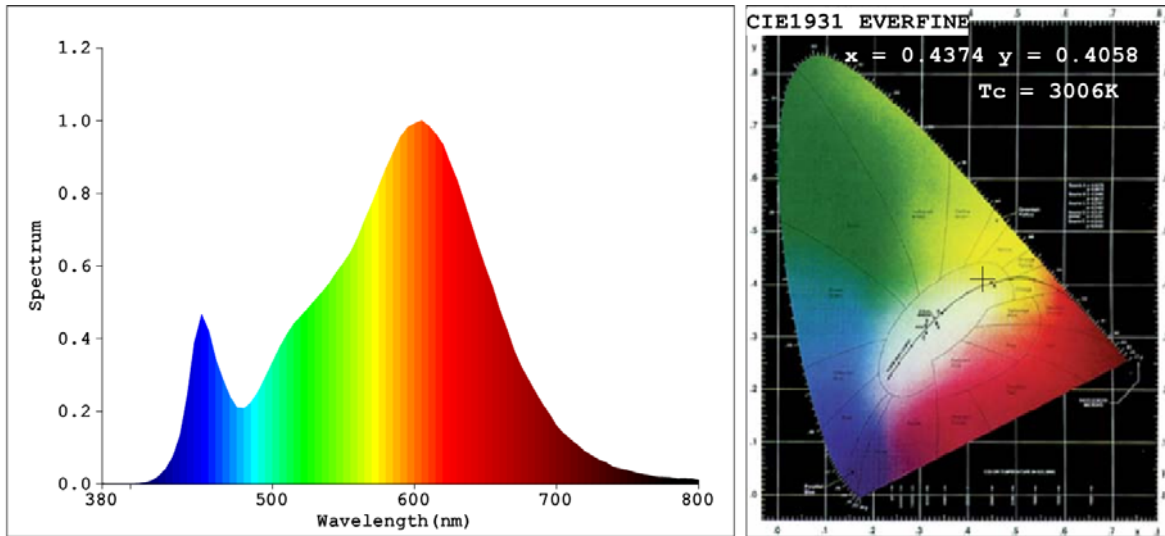
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	9
Frequency (Hz)	60	R2	91	R10	81
CCT (K)	3006	R3	96	R11	81
Duv	0.00060	R4	81	R12	73
Chromaticity (x, y)	x=0.4374 y=0.4058	R5	82	R13	84
Chromaticity (u', v')	u'=0.2502 v'=0.5221	R6	90	R14	99
Color Rendering Index (CRI)	83.2	R7	83	R15	74
R9	9	R8	60	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1081.4
Luminous Efficacy (lm/W)	110.79
Beam Angle (°)	113.9
Center Beam Candle Power (cd)	360.8

Spectral Power Distribution & Chromaticity Diagram

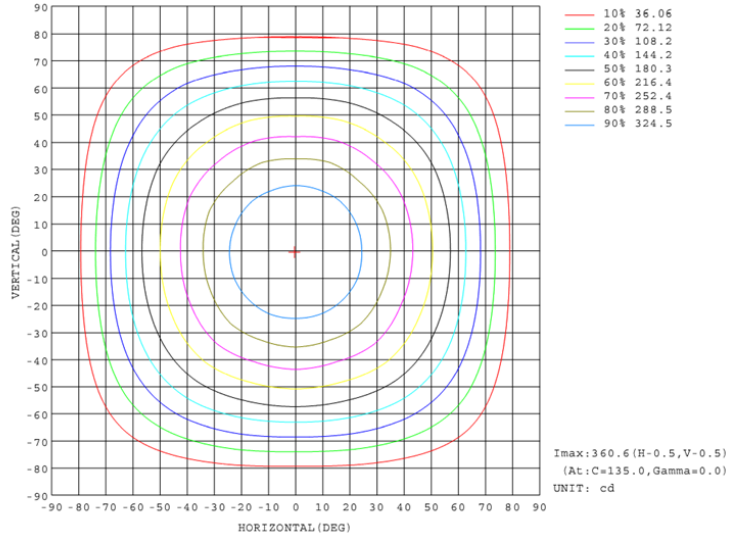
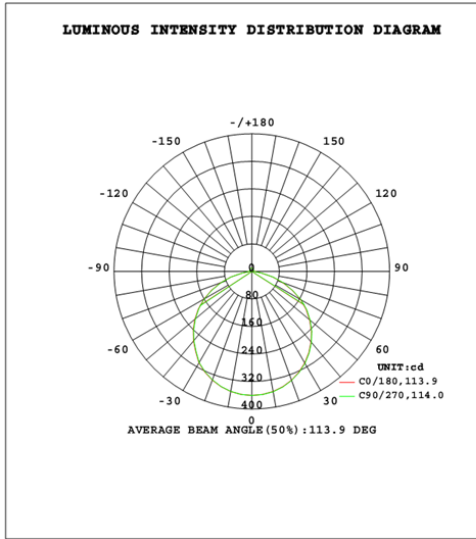


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	281.0	26.0%
0-40	460.7	42.6%
0-60	819.3	75.8%
60-90	215.0	19.9%
70-100	92.6	8.6%
90-120	21.5	2.0%
0-90	1034.3	95.6%
90-180	47.1	4.4%
0-180	1081.4	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	34.1	3.2%	90-100	7.5	0.7%
10-20	97.9	9.1%	100-110	7.1	0.7%
20-30	148.9	13.8%	110-120	6.8	0.6%
30-40	179.8	16.6%	120-130	6.5	0.6%
40-50	187.4	17.3%	130-140	6.0	0.6%
50-60	171.2	15.8%	140-150	5.3	0.5%
60-70	129.9	12.0%	150-160	4.2	0.4%
70-80	68.8	6.4%	160-170	2.7	0.3%
80-90	16.4	1.5%	170-180	1.0	0.1%

Photometric Data



Flux out:819.3 lm

Height	Havg, Hmax	Angle:113.72deg	Diameter
1ft	86.93,360.8fc		3.063ft
2ft	21.73,90.20fc		6.127ft
3ft	9.659,40.09fc		9.19ft
4ft	5.433,22.55fc		12.25ft
5ft	3.477,14.43fc		15.32ft
6ft	2.415,10.02fc		18.38ft
7ft	1.774,7.363fc		21.44ft
8ft	1.358,5.638fc		24.51ft
9ft	1.073,4.454fc		27.57ft
10ft	0.8693,3.608fc		30.63ft

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

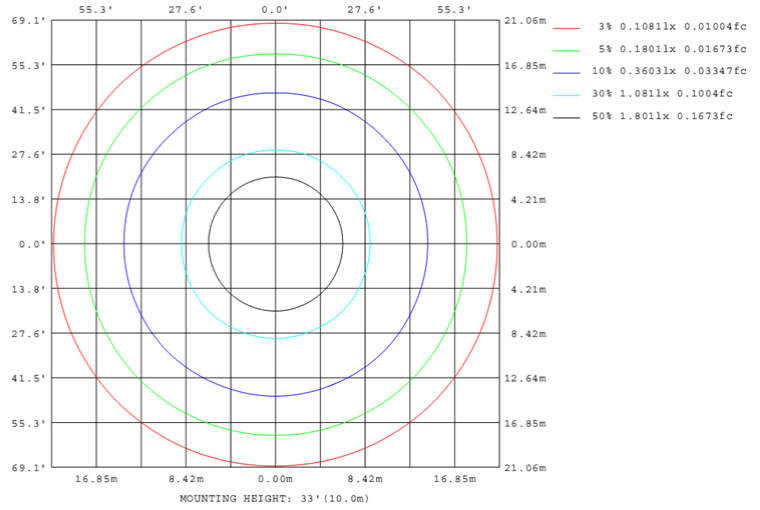
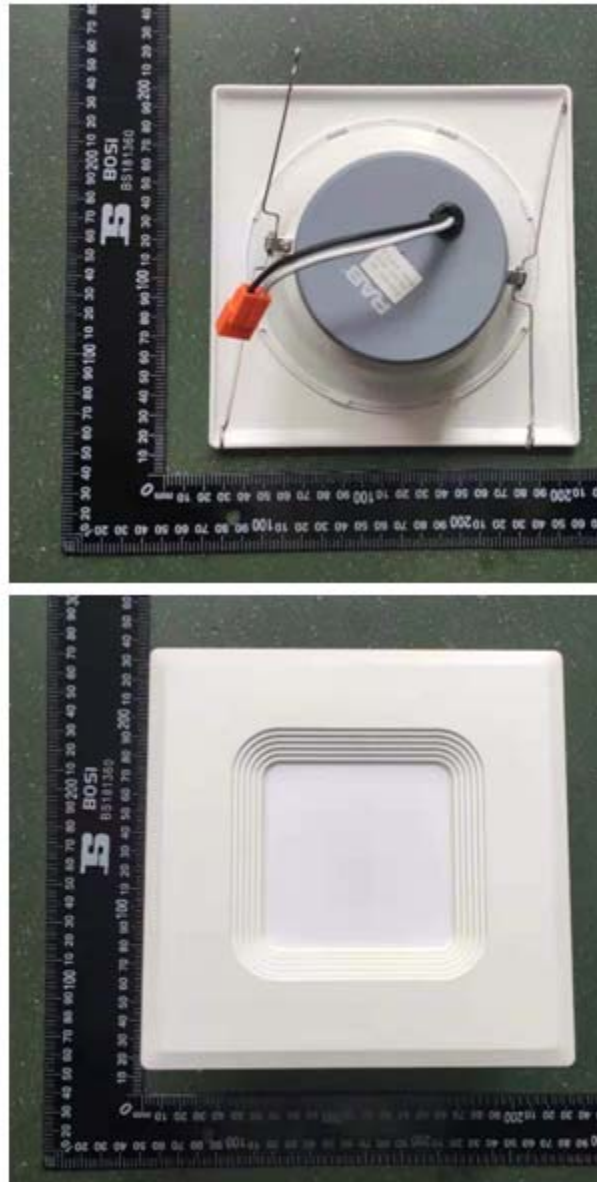


Table--1

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	360	360	360	360	360	361	361	361	360	360	360	360	360	361	361				
5	359	359	359	359	359	359	359	359	359	359	359	358	359	359	359				
10	354	355	355	355	355	355	355	355	354	354	354	354	354	354	354				
15	347	347	347	347	348	348	347	347	347	346	346	346	346	346	347	347			
20	336	337	337	337	337	338	337	337	336	336	336	335	335	335	336	336			
25	323	324	324	324	324	325	324	324	323	322	322	321	322	322	323	323			
30	307	308	308	309	308	309	308	308	307	306	307	305	306	306	307	307			
35	288	287	290	288	290	288	290	286	284	288	284	287	283	287	284	288			
40	267	265	269	266	269	266	269	265	264	267	263	266	262	266	264	267			
45	244	243	246	243	246	244	246	242	241	243	241	242	239	243	241	244			
50	219	218	221	219	221	219	221	217	216	218	216	217	214	217	216	219			
55	192	192	194	192	194	193	194	191	190	192	189	191	188	191	190	192			
60	163	164	166	165	165	165	166	164	162	164	162	163	159	163	162	164			
65	129	132	134	133	131	134	134	132	130	130	132	129	128	129	133	131			
70	95.9	99.6	101	101	98.3	101	101	99.2	97.3	97.6	99.8	96.3	95.2	96.3	99.8	98.0			
75	62.5	66.3	66.8	67.4	64.9	67.8	67.0	66.0	64.2	64.7	65.7	63.5	62.1	63.2	65.7	65.0			
80	29.1	32.5	33.5	33.8	31.5	34.3	33.8	32.5	31.2	31.3	32.8	30.1	29.0	29.8	32.6	31.4			
85	10.0	10.7	10.8	11.1	10.5	11.2	10.9	10.8	10.5	10.5	10.7	10.2	10.0	10.2	10.6	10.5			
90	6.94	6.97	6.97	7.09	7.04	7.15	7.00	7.00	7.24	7.15	7.13	7.11	7.12	7.14	7.12	7.13			
95	6.63	6.64	6.66	6.66	6.65	6.66	6.65	6.65	7.05	7.06	7.04	7.04	7.04	7.05	7.04	7.05			
100	6.43	6.44	6.45	6.45	6.44	6.45	6.45	6.44	7.06	7.07	7.06	7.06	7.06	7.07	7.06	7.06			
105	6.33	6.33	6.34	6.33	6.33	6.33	6.33	6.33	7.12	7.14	7.13	7.13	7.13	7.14	7.12	7.12			
110	6.32	6.32	6.33	6.31	6.32	6.31	6.32	6.31	7.22	7.25	7.23	7.23	7.23	7.24	7.22	7.22			
115	6.40	6.38	6.39	6.38	6.38	6.37	6.39	6.38	7.34	7.37	7.35	7.36	7.36	7.36	7.35	7.34			
120	6.55	6.52	6.53	6.52	6.52	6.51	6.52	6.52	7.50	7.52	7.50	7.51	7.51	7.51	7.50	7.49			
125	6.74	6.73	6.74	6.72	6.72	6.71	6.72	6.72	7.68	7.70	7.70	7.70	7.69	7.71	7.69	7.69			
130	7.00	6.98	6.99	6.97	6.98	6.96	6.97	6.97	7.91	7.93	7.92	7.93	7.93	7.94	7.91	7.91			
135	7.30	7.28	7.29	7.27	7.28	7.25	7.27	7.28	8.18	8.20	8.19	8.20	8.19	8.20	8.18	8.18			
140	7.63	7.63	7.62	7.60	7.61	7.59	7.62	7.61	8.47	8.50	8.48	8.49	8.48	8.49	8.47	8.47			
145	8.01	7.99	8.00	7.97	7.98	7.96	7.98	7.97	8.77	8.80	8.79	8.80	8.79	8.80	8.78	8.78			
150	8.40	8.39	8.38	8.36	8.37	8.35	8.37	8.36	9.07	9.09	9.08	9.09	9.08	9.08	9.06	9.06			
155	8.78	8.77	8.77	8.74	8.76	8.73	8.76	8.74	9.34	9.35	9.34	9.35	9.34	9.35	9.32	9.33			
160	9.14	9.12	9.12	9.10	9.11	9.09	9.12	9.10	9.59	9.59	9.58	9.59	9.59	9.59	9.56	9.57			
165	9.47	9.45	9.46	9.44	9.45	9.43	9.45	9.44	9.80	9.82	9.79	9.80	9.80	9.81	9.79	9.79			
170	9.76	9.75	9.76	9.74	9.74	9.74	9.75	9.74	9.97	9.98	9.96	9.97	9.96	9.97	9.96	9.96			
175	9.98	9.98	9.98	9.96	9.97	9.96	9.97	9.95	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1			
180	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1			

3. Product Photo



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