

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): DLC0018(C6R18935UNVW)

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

**Type of
Luminaire:** Downlights

Report Date: 2019-10-10

Prepared By:

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120V-277Vac, 50/60 Hz
Nominal Power	18W
Rated Initial Lamp Lumen	1500 lm
Declared CCT	3500K

Note: The tests are conducted under the worst conditions.

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	2019-10-08	Test Ambient:	25.6 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0018(C6R18935UNVW)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1909180031	120.0	60	0.140	16.80	0.996

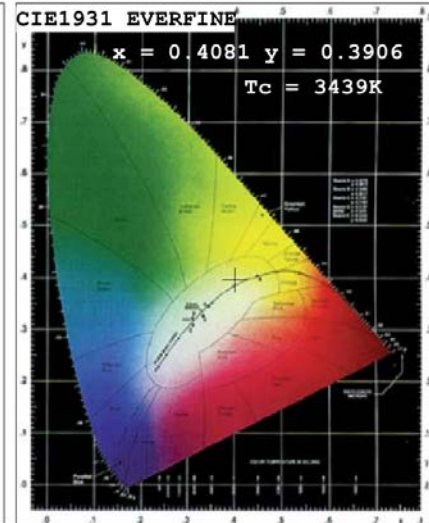
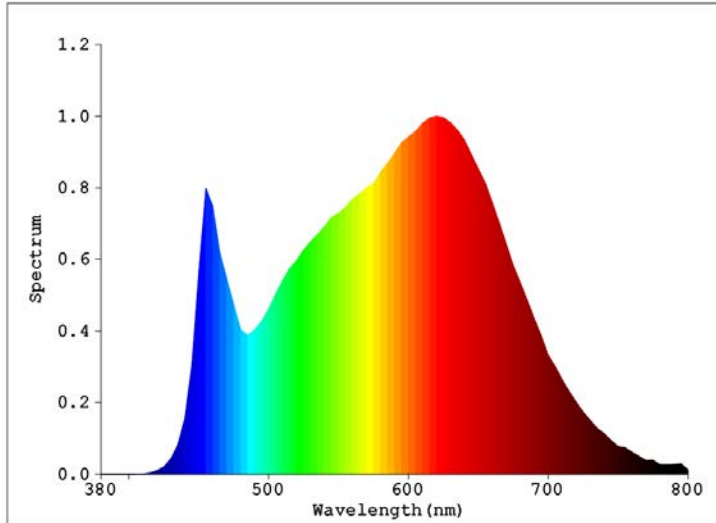
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	96	R9	72
Frequency (Hz)	60	R2	100	R10	97
CCT (K)	3439	R3	98	R11	93
Duv	0.00065	R4	92	R12	75
Chromaticity (x, y)	x=0.4081 y=0.3906	R5	94	R13	98
Chromaticity (u', v')	u'=0.2376 v'=0.5116	R6	96	R14	100
Color Rendering Index (CRI)	94.4	R7	92	R15	93
R9	72	R8	87	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1542.7
Luminous Efficacy (lm/W)	91.83
Beam Angle (°)	87.3
Center Beam Candle Power (cd)	738.5

Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	536.2	34.8%
0-40	839.8	54.4%
0-60	1300.7	84.3%
60-90	174.9	11.3%
70-100	76.7	5.0%
90-120	28.3	1.8%
0-90	1475.6	95.6%
90-180	67.2	4.4%
0-180	1542.7	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	69.2	4.5%	90-100	9.5	0.6%
10-20	192.3	12.5%	100-110	9.4	0.6%
20-30	274.7	17.8%	110-120	9.4	0.6%
30-40	303.6	19.7%	120-130	9.4	0.6%
40-50	269.0	17.4%	130-140	9.0	0.6%
50-60	192.0	12.4%	140-150	8.1	0.5%
60-70	107.7	7.0%	150-160	6.5	0.4%
70-80	47.0	3.0%	160-170	4.3	0.3%
80-90	20.1	1.3%	170-180	1.5	0.1%

Photometric Data

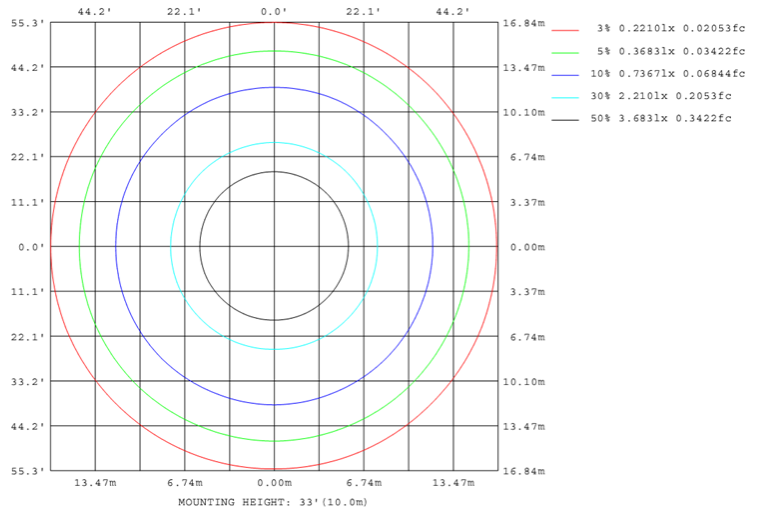
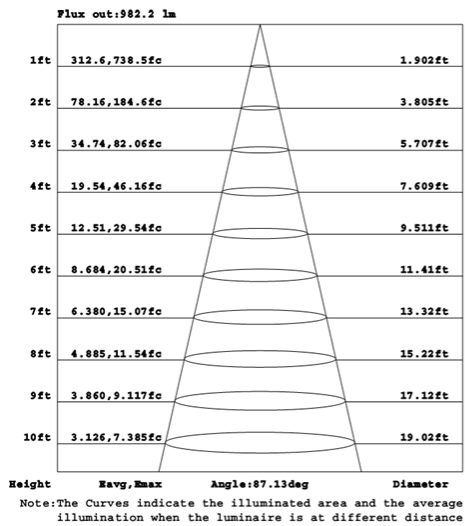
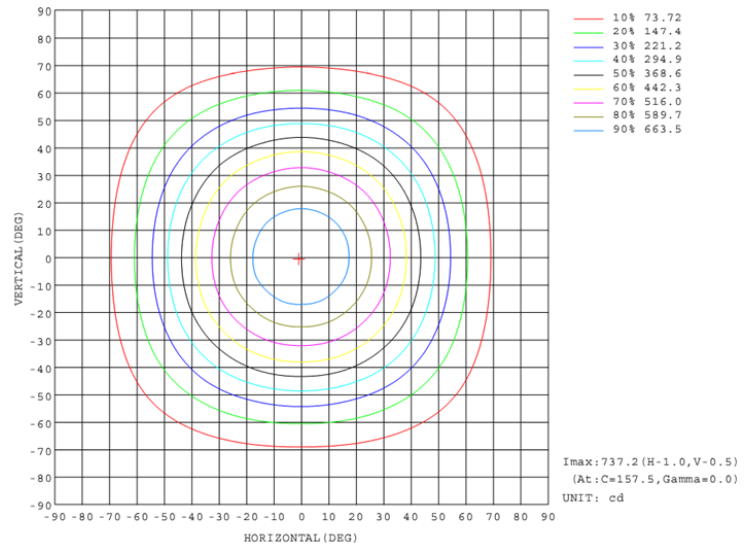
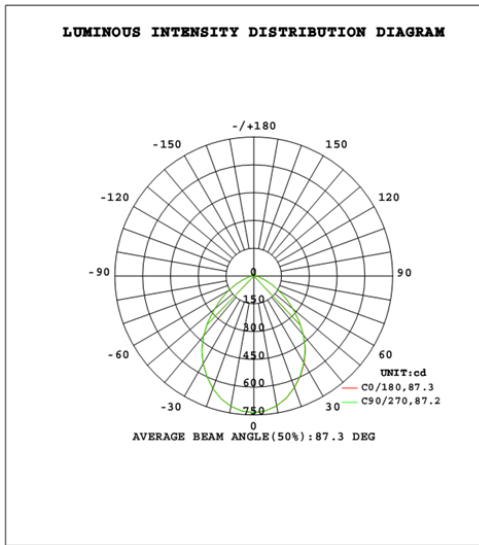
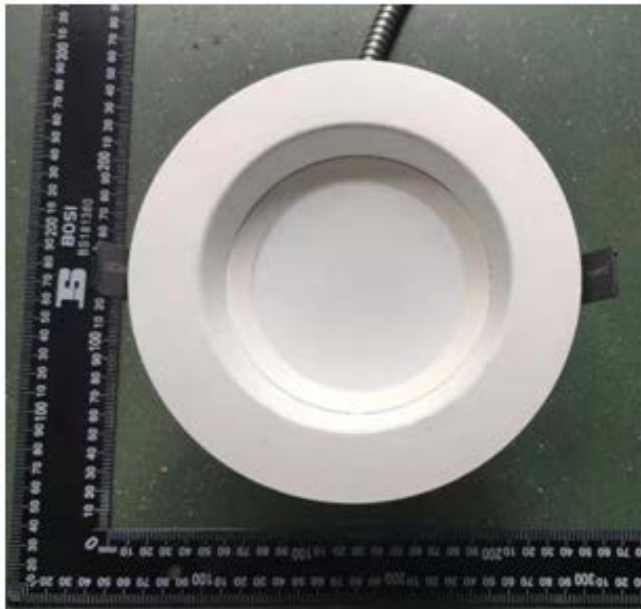


Table--1

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	737	737	737	737	737	737	738	739	737	737	737	737	737	737	738	739			
5	730	730	729	729	730	731	731	733	732	731	732	731	732	732	732	732			
10	712	711	710	711	710	712	713	715	714	714	715	714	715	714	714	714			
15	682	682	680	681	680	682	683	687	685	684	686	685	686	685	685	684			
20	642	642	640	641	640	642	643	647	646	646	647	646	647	646	646	644			
25	596	595	593	594	592	595	596	601	599	599	601	599	600	599	599	597			
30	543	543	540	541	539	543	544	548	547	547	548	547	548	546	546	544			
35	486	486	483	484	483	486	487	492	490	490	492	490	491	489	490	487			
40	418	419	416	417	415	419	420	424	423	421	424	422	424	421	422	419			
45	347	348	344	346	345	348	349	353	351	350	352	350	352	350	350	347			
50	277	274	276	273	276	275	279	279	278	280	278	280	278	280	276	278			
55	213	211	212	210	212	212	215	215	214	216	214	216	214	216	213	213			
60	153	154	152	154	152	155	155	158	157	157	157	157	157	155	155	153			
65	105	106	104	105	104	106	107	109	108	107	108	107	108	107	107	105			
70	66.6	67.1	66.0	67.0	66.3	67.7	67.8	69.4	69.2	68.5	69.5	68.6	69.3	67.9	68.2	66.8			
75	40.0	40.4	39.7	40.3	39.9	40.7	40.7	41.7	41.7	41.3	41.9	41.3	41.7	40.9	41.0	40.2			
80	28.3	28.5	28.1	28.3	28.1	28.5	28.5	28.9	29.0	28.9	29.0	28.8	28.9	28.7	28.8	28.7			
85	17.4	17.6	17.2	17.5	17.3	17.8	17.8	18.3	19.0	18.8	19.1	18.8	19.0	18.6	18.6	18.2			
90	8.47	8.47	8.47	8.47	8.47	8.47	8.50	8.54	9.37	9.35	9.37	9.35	9.35	9.33	9.32	9.35			
95	8.10	8.11	8.11	8.11	8.11	8.12	8.14	8.15	9.25	9.25	9.24	9.24	9.23	9.24	9.24	9.27			
100	8.01	8.01	8.02	8.01	8.02	8.02	8.04	8.04	9.30	9.32	9.31	9.32	9.30	9.32	9.32	9.36			
105	8.10	8.09	8.13	8.12	8.12	8.11	8.13	8.12	9.52	9.53	9.50	9.52	9.51	9.53	9.53	9.58			
110	8.34	8.33	8.35	8.34	8.36	8.34	8.36	8.35	9.84	9.85	9.83	9.84	9.83	9.86	9.87	9.92			
115	8.70	8.69	8.73	8.71	8.73	8.71	8.72	8.70	10.2	10.3	10.2	10.3	10.2	10.3	10.3	10.3			
120	9.17	9.17	9.20	9.19	9.22	9.18	9.20	9.17	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.8			
125	9.71	9.71	9.74	9.73	9.76	9.73	9.76	9.71	11.2	11.2	11.2	11.2	11.2	11.3	11.3	11.3			
130	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	11.8	11.8	11.7	11.8	11.8	11.8	11.8	11.9			
135	10.9	10.9	10.9	10.9	11.0	10.9	11.0	10.9	12.3	12.3	12.3	12.3	12.3	12.3	12.4	12.4			
140	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	12.9	12.9	12.9	12.9	12.9	12.9	12.9	13.0			
145	12.2	12.2	12.3	12.3	12.3	12.3	12.3	12.3	13.4	13.4	13.4	13.4	13.4	13.5	13.5	13.5			
150	12.9	12.9	13.0	13.0	13.0	13.0	13.0	12.9	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.1			
155	13.6	13.6	13.6	13.6	13.7	13.6	13.7	13.6	14.5	14.5	14.5	14.5	14.5	14.6	14.6	14.7			
160	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.2			
165	14.9	14.9	15.0	14.9	15.0	15.0	15.0	15.0	15.5	15.5	15.5	15.5	15.5	15.6	15.6	15.7			
170	15.5	15.5	15.5	15.5	15.6	15.5	15.6	15.6	15.9	15.9	15.9	15.9	15.9	16.0	16.0	16.0			
175	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.3			
180	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3			

3. Product Photo



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