

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): DLC0005(C6R18830UNVW)

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

**Type of
Luminaire:** Downlights

Report Date: 2019-10-10

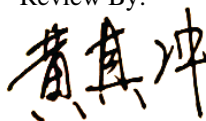
Prepared By:

Test & Report By:



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Review By:



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1.1 Rated Values:	
Rated Voltage / Frequency	120V-277Vac, 50/60 Hz
Nominal Power	18W
Rated Initial Lamp Lumen	1700 lm
Declared CCT	3000K

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

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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.

3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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.

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	DLC0005(C6R18830UNVW)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1909180018	120.0	60	0.136	16.30	0.997

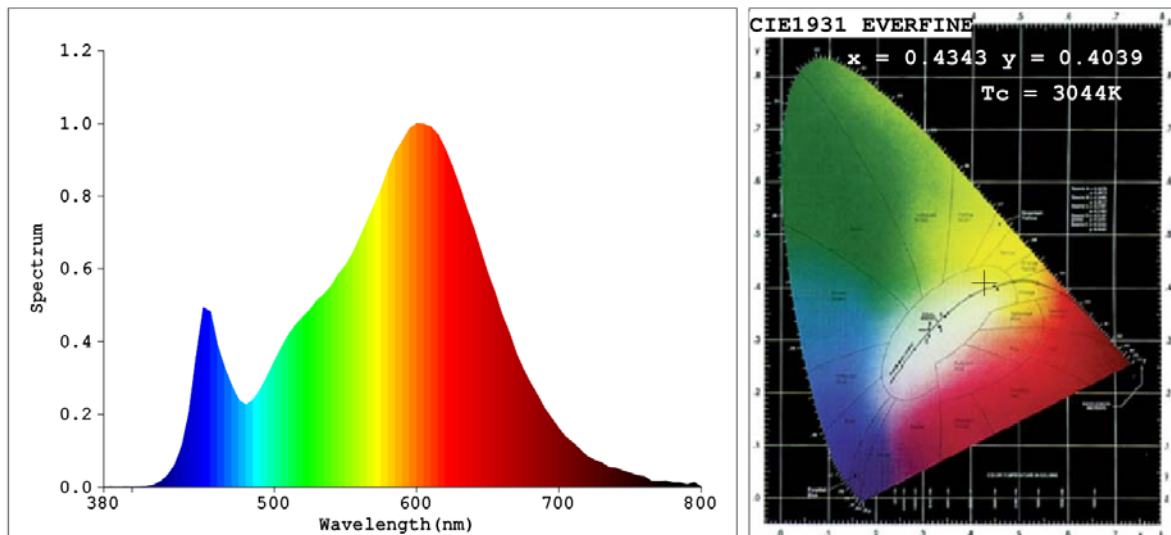
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	10
Frequency (Hz)	60	R2	92	R10	83
CCT (K)	3044	R3	96	R11	81
Duv	0.00029	R4	81	R12	73
Chromaticity (x, y)	x=0.4343 y=0.4039	R5	83	R13	85
Chromaticity (u', v')	u'=0.2489 v'=0.5209	R6	91	R14	98
Color Rendering Index (CRI)	83.5	R7	83	R15	75
R9	10	R8	60	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1712.5
Luminous Efficacy (lm/W)	105.06
Beam Angle (°)	86.6
Center Beam Candle Power (cd)	825.8

Spectral Power Distribution & Chromaticity Diagram

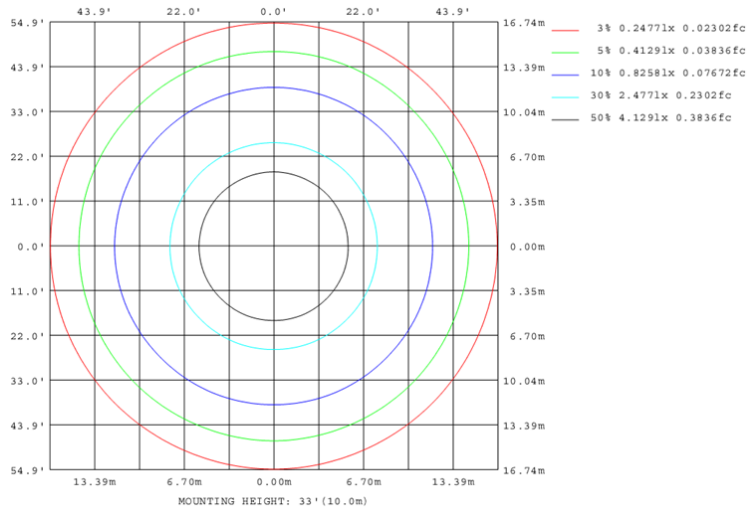
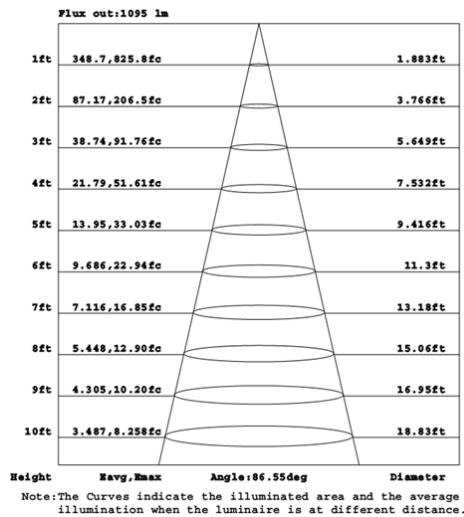
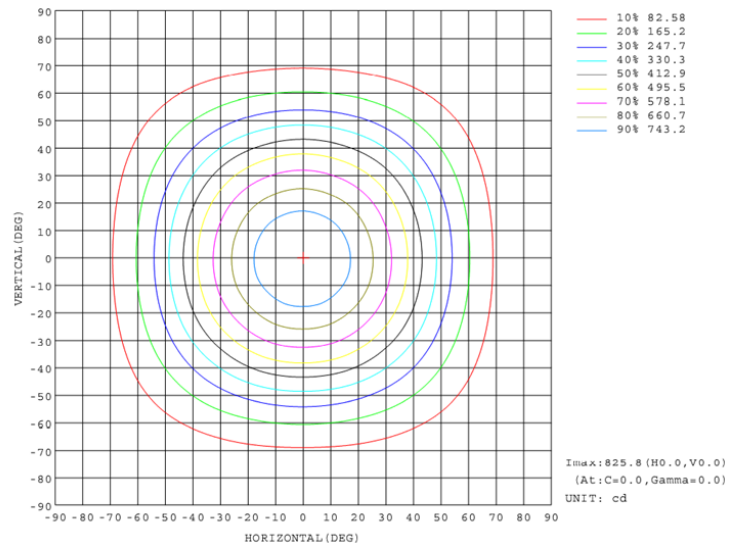
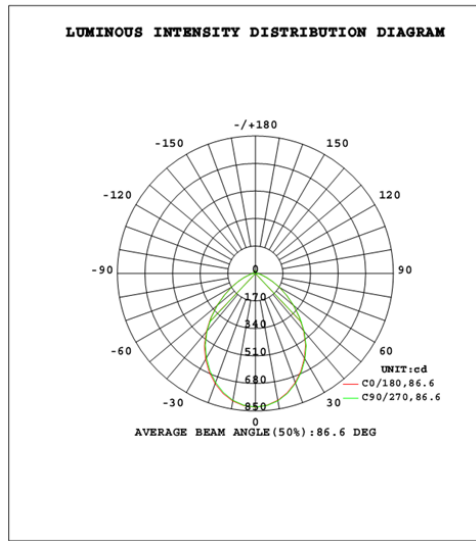


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	599.7	35.0%
0-40	937.7	54.8%
0-60	1446.7	84.5%
60-90	191.4	11.2%
70-100	84.0	4.9%
90-120	31.3	1.8%
0-90	1638.1	95.7%
90-180	74.4	4.3%
0-180	1712.5	100.0%

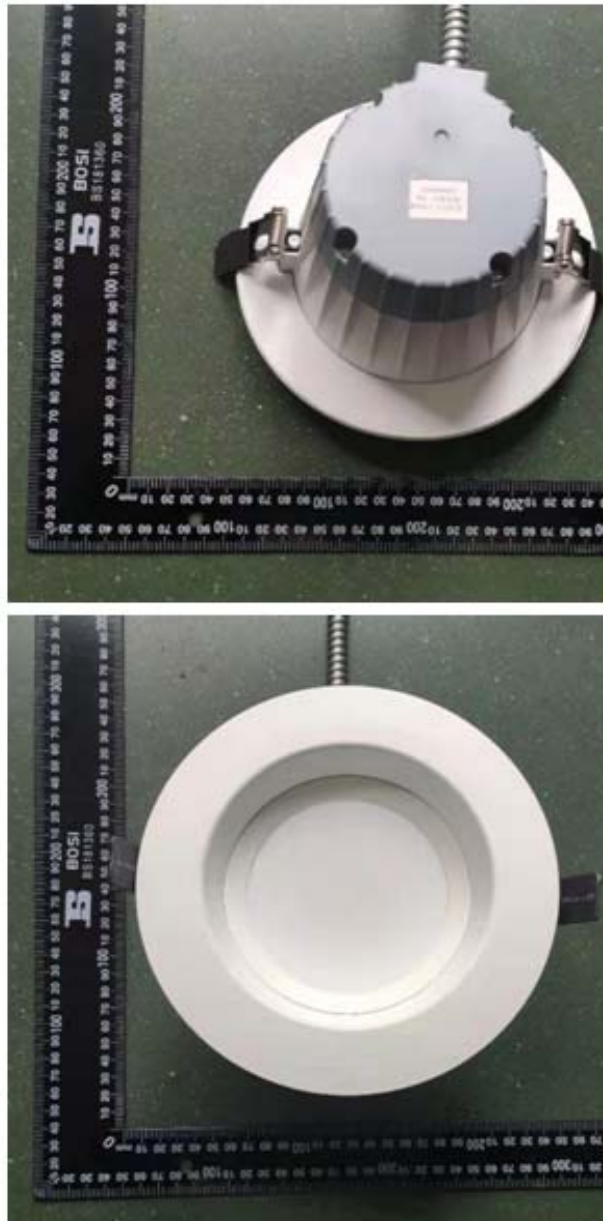
Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	77.5	4.5%	90-100	10.5	0.6%
10-20	215.2	12.6%	100-110	10.4	0.6%
20-30	307.0	17.9%	110-120	10.4	0.6%
30-40	338.0	19.7%	120-130	10.4	0.6%
40-50	297.7	17.4%	130-140	10.0	0.6%
50-60	211.2	12.3%	140-150	9.0	0.5%
60-70	117.9	6.9%	150-160	7.2	0.4%
70-80	51.4	3.0%	160-170	4.8	0.3%
80-90	22.1	1.3%	170-180	1.7	0.1%

Photometric Data



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	826	826	826	826	826	825	826	826	826	826	826	826	826	825	826	826			
5	818	819	819	819	819	820	820	821	820	819	819	818	817	817	817	817			
10	796	798	798	800	800	801	801	801	801	799	798	796	796	795	796	795			
15	762	764	765	768	767	769	768	770	768	766	765	763	762	760	761	761			
20	718	721	721	723	723	725	725	727	725	722	721	718	717	714	715	715			
25	664	668	668	671	670	673	672	675	672	669	668	664	663	660	662	661			
30	605	608	609	612	611	614	612	615	613	610	609	604	604	600	602	601			
35	540	544	543	547	546	549	548	551	548	545	544	540	539	536	538	537			
40	463	466	465	469	468	471	470	473	471	467	467	464	464	461	463	461			
45	383	386	384	388	386	390	388	392	389	386	386	383	384	381	383	381			
50	305	307	306	309	308	311	309	312	310	308	307	305	305	304	305	303			
55	234	233	235	234	236	235	237	236	235	236	234	234	232	233	231	232			
60	170	170	171	170	172	171	173	172	171	172	170	171	169	170	169	169			
65	115	116	115	117	116	117	116	119	118	117	117	116	117	115	116	114			
70	72.9	74.0	73.4	74.5	73.8	74.9	74.2	75.8	75.5	74.5	75.3	74.0	74.6	73.3	73.8	72.5			
75	43.9	44.5	44.0	44.6	44.0	44.7	44.3	45.4	45.5	45.0	45.6	44.9	45.1	44.4	44.7	43.9			
80	31.2	31.4	30.9	30.9	30.5	30.6	30.5	31.1	31.7	31.7	32.0	31.8	31.9	31.6	31.8	31.5			
85	19.1	19.5	19.1	19.5	19.2	19.6	19.4	20.0	20.8	20.5	20.7	20.3	20.5	20.1	20.3	19.9			
90	9.36	9.35	9.35	9.35	9.34	9.35	9.37	9.40	10.4	10.3	10.3	10.3	10.3	10.3	10.3	10.3			
95	8.97	8.97	8.95	8.95	8.95	8.95	8.95	8.97	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2			
100	8.87	8.86	8.85	8.84	8.83	8.83	8.84	8.84	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3			
105	8.98	8.95	8.96	8.93	8.92	8.92	8.93	8.92	10.5	10.6	10.5	10.6	10.5	10.6	10.6	10.6			
110	9.25	9.22	9.22	9.19	9.20	9.17	9.18	9.17	10.9	10.9	10.9	10.9	10.9	10.9	11.0	10.9			
115	9.65	9.61	9.63	9.59	9.59	9.56	9.58	9.56	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4			
120	10.2	10.1	10.2	10.1	10.1	10.1	10.1	10.1	11.9	11.9	11.9	11.9	11.9	12.0	11.9	12.0			
125	10.8	10.8	10.8	10.7	10.7	10.7	10.7	10.7	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.6			
130	11.5	11.4	11.4	11.4	11.4	11.4	11.4	11.4	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.2			
135	12.2	12.1	12.2	12.1	12.1	12.1	12.1	12.1	13.7	13.7	13.7	13.8	13.7	13.8	13.8	13.8			
140	12.9	12.9	12.9	12.9	12.9	12.8	12.8	12.8	14.3	14.4	14.4	14.4	14.4	14.4	14.4	14.4			
145	13.7	13.6	13.6	13.6	13.6	13.6	13.6	13.5	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0			
150	14.4	14.4	14.4	14.4	14.4	14.3	14.3	14.3	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6			
155	15.2	15.1	15.1	15.1	15.1	15.1	15.1	15.1	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2			
160	15.9	15.9	15.9	15.9	15.9	15.8	15.8	15.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8			
165	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3			
170	17.3	17.3	17.3	17.3	17.3	17.2	17.2	17.2	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8			
175	17.9	17.8	17.8	17.8	17.8	17.8	17.8	17.8	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0			
180	18.2	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1			

3. Product Photo



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