



BESTWAY COMPLIANCE CO., LTD.

Unit 301, Building 3, No. 178, Fenggang Section, Dongshen Road, Fenggang Town,
Dongguan, Guangdong, People's Republic of China
Tel: (+86)0769-82699983

LM-79-19 Test Report

For

RAB Lighting Inc.

(Brand Name: RAB Lighting)

Room 609, Building C, MixC, No. 1799 Wuzhong Road Minhang District, Shanghai,
China Xiao Xiang, 15921313292, gary.xiao@rablighting.com

Model name(s):

RLB2-3C[blank, /MVS, /LCBS/MVS][blank, /E]

Report Type: Testing and Report According to IES LM-79-2019
Type of Luminaire: Retrofit Kits for Direct Linear Ambient Luminaires
Report Date: 2024-11-22

Test & Report By:

Ferrum Li

Engineer: Ferrum Li

Review By:

Garman Mo

Manager: Garman Mo

Note: 1. The results contained in this report pertain only to the tested samples.
2. This report does not imply product certification, approval, or endorsement by A2LA or any agency of the Federal Government.



1.1 Product Information:		
Model Number	RLB2-3C[blank, /MVS, /LCBS/MVS][blank, /E]	
Remark	<p>The suffix “[blank, /MVS, /LCBS/MVS]” can be “/MVS” =with motion sensor, “/LCBS/MVS” =motion sensor with Bluetooth and smart controller or Blank=no sensor and smart controller provided.</p> <p>The suffix “[blank, /E]” can be “/E” =with emergency backup driver or Blank=no emergency backup driver provided.</p>	
Representative (Tested) Model	RLB2-3C(0%,3000K)	
Model Difference	N/A	
SKU (if available)	--	
Type of Luminaire (for integral lamps, list base type and lamp type)	Retrofit Kits for Direct Linear Ambient Luminaires	
LED Manufacturer	Bridgelux Inc.	
LED Model	BXEN-30E-13H-9C1 BXEN-65E-13H-9C1	
Integral Controls Availability	Yes	
Dimming	Continuous	
Sample Number	JDE241105-J1	
Date of Receipt	2024-11-09	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaire Width	--	mm
Number of Units (modular products)	N/A	s

1.2 Rated Values:	
Rated Voltage / Frequency	120-277Vac, 50/60Hz
Nominal Power	25W/30W/35W/40W/45W (Power Adjustable)
Rated Initial Lamp Lumen	--
Declared CCT	3000K,3500K,4000K,5000K,6500K (Color Tunable)



1.3 Test Specifications:

Test item	<ol style="list-style-type: none"> 1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Electrical Parameters
Reference Standard	<ol style="list-style-type: none"> 1. IES LM-79-2019 Optical and Electrical 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

1.4 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 °C ± 1.2 °C, measured at a point not more than 1.5 m from the sample and at the same height as the sample. The humidity should be maintained between 10% and 65%. 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) 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 °C ± 1.2 °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 Summary of Test Result

Criteria Item	Measured Value		Compliance	Requirement (DLC V5.1)	
				Standard	Premium
Minimum Total Luminous	7010.6		Pass	≥375 lm/ft (-10%)	
Minimum Luminous Efficacy	157.62		Pass	Standard: ≥115(-3%)	Premium: ≥130(-3%)
Minimum Power Factor	0.9590		Pass	≥0.9(-3%)	
Maximum THD %	13.65		Pass	≤20(+5)	
Zonal Lumen Requirement	0-60°	80.4	Pass	≥40(-3)	



2.2 Electrical, Photometric and Chromaticity Measurements

Test date	2024-11-12	Test Ambient:	25 ± 1 °C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	RLB2-3C(0%,300 0K)	Total Operating Time (min)	75

Electrical Measurement in Lithonia C2 25 MVOLT GEB10IS:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JDE241105-	120.0	60	0.3717	44.48	0.9971	6.33
J1	277.0	60	0.1654	43.94	0.9590	13.65

**Photometric Measurement in Lithonia C2 25 MVOLT GEB10IS–
Goniophotometer Method(Test Distance:26.000m):**

Parameter	Result	
Test Voltage (V)	120	277
Frequency (Hz)	60	60
Total Luminous (lm)	7010.9	7010.6
Luminous Efficacy (lm/W)	157.62	159.55
Zonal lumens in the 0-60 °	80.4	--
Beam Angle (°)	107.8	--
Center Beam Candle Power (cd)	2470	--

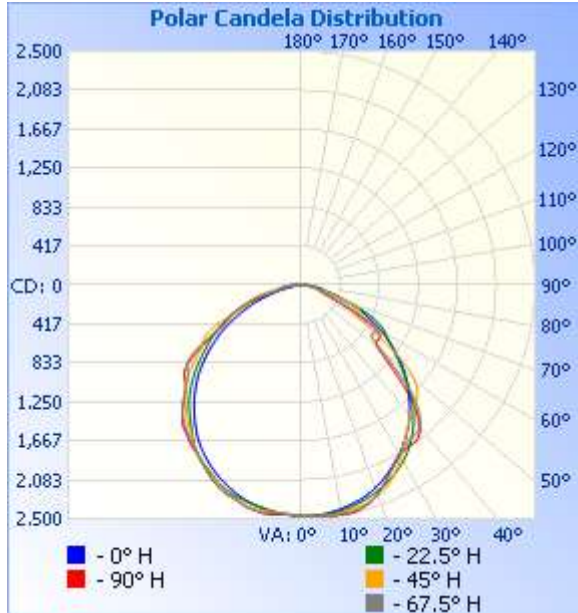


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	1,956.8	27.9%
0-40	3,218.5	45.9%
0-60	5,633.6	80.4%
60-90	1,267.5	18.1%
70-100	551.9	7.9%
90-120	91.8	1.3%
0-90	6,901.1	98.4%
90-180	109.2	1.6%
0-180	7,010.3	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	235.0	3.4%	90-100	55.0	0.8%
10-20	683.3	9.7%	100-110	26.9	0.4%
20-30	1,038.5	14.8%	110-120	9.9	0.1%
30-40	1,261.7	18.0%	120-130	4.5	0.1%
40-50	1,306.4	18.6%	130-140	3.7	0.1%
50-60	1,108.7	15.8%	140-150	3.3	0%
60-70	770.6	11.0%	150-160	2.8	0%
70-80	362.8	5.2%	160-170	2.2	0%
80-90	134.1	1.9%	170-180	0.9	0%

Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width	
4.0ft	154.4 fc	10.6 ft	10.8 ft
8.0ft	38.6 fc	21.1 ft	21.5 ft
12.0ft	17.2 fc	31.7 ft	32.3 ft
16.0ft	9.7 fc	42.2 ft	43.1 ft
20.0ft	6.2 fc	52.8 ft	53.9 ft
24.0ft	4.3 fc	63.3 ft	64.6 ft
28.0ft	3.2 fc	73.9 ft	75.4 ft
32.0ft	2.4 fc	84.4 ft	86.2 ft

■ Vert. Spread: 105.7°
■ Horiz. Spread: 106.8°

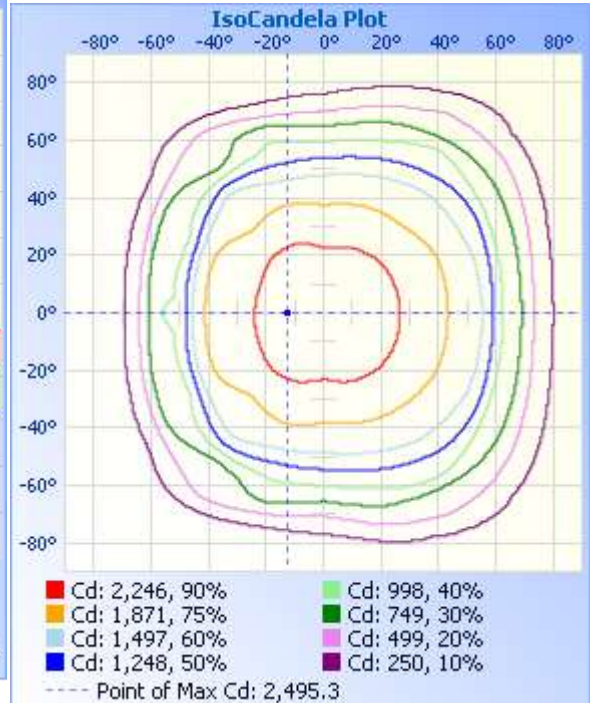
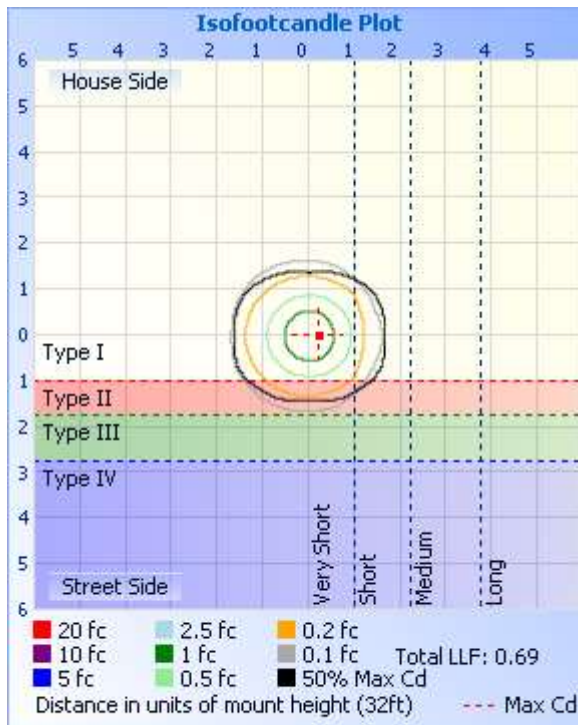




Table--1

UNIT: cd

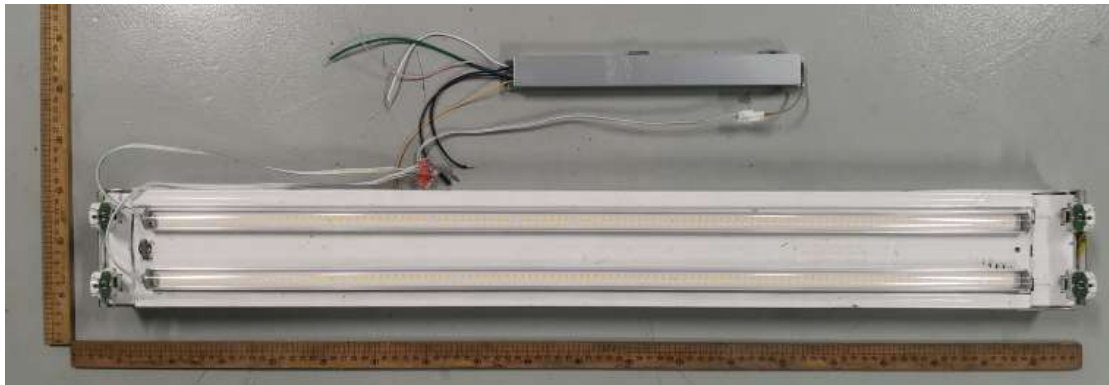
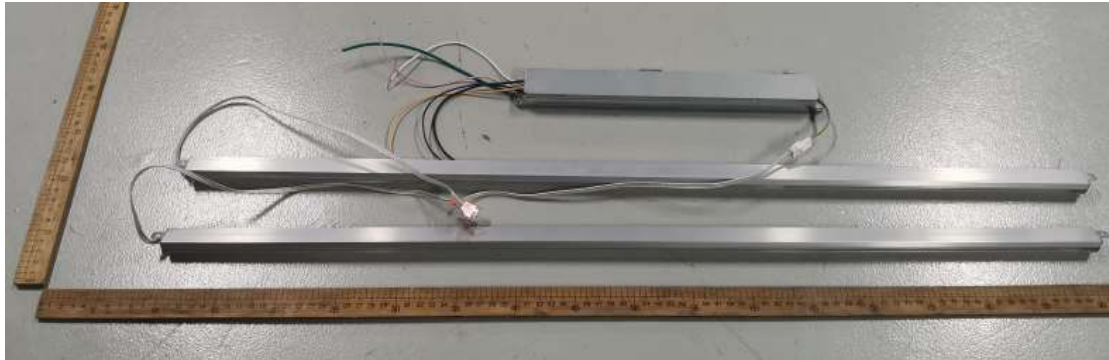
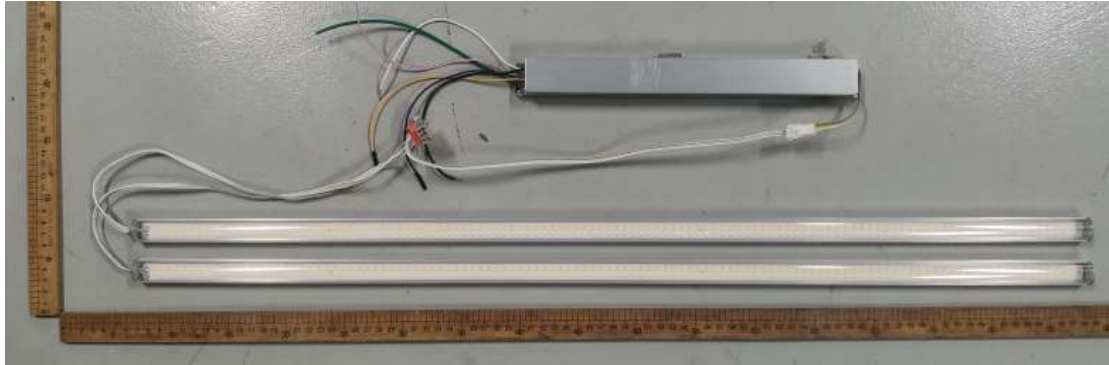
γ (DEG) \ C (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5		
0	2471	2471	2471	2471	2471	2471	2471	2471	2471	2471	2471	2471	2471	2471	2471	2471		
5	2461	2460	2446	2452	2461	2466	2476	2480	2486	2484	2477	2465	2457	2447	2447	2450		
10	2470	2470	2448	2416	2429	2449	2470	2479	2490	2487	2469	2446	2426	2416	2452	2472		
15	2425	2431	2411	2378	2381	2407	2445	2468	2475	2474	2439	2398	2372	2382	2419	2435		
20	2370	2361	2360	2330	2306	2350	2391	2379	2382	2393	2390	2332	2291	2333	2356	2367		
25	2273	2274	2263	2241	2205	2275	2288	2225	2226	2241	2283	2249	2201	2249	2267	2284		
30	2166	2158	2164	2135	2092	2173	2122	2089	2108	2093	2121	2167	2086	2155	2168	2157		
35	2070	2046	2015	2010	1956	2036	1948	2015	2072	2002	1941	2045	1955	2021	2033	2048		
40	1973	1947	1874	1862	1803	1868	1810	1966	1971	1967	1797	1876	1789	1859	1897	1945		
45	1792	1806	1735	1697	1623	1647	1733	1700	1585	1717	1700	1671	1616	1702	1759	1794		
50	1623	1591	1592	1511	1431	1410	1579	1188	1100	1218	1577	1437	1425	1509	1617	1597		
55	1503	1468	1395	1298	1217	1196	1148	916	1008	900	1238	1182	1208	1295	1389	1499		
60	1118	1225	1175	1081	997	1033	706	911	873	909	751	980	982	1102	1214	1198		
65	888	844	1017	884	763	854	663	560	453	593	595	827	750	911	999	857		
70	691	703	633	679	532	513	551	256	243	273	576	580	517	661	618	697		
75	354	427	512	466	312	238	215	184	191	186	247	249	304	490	515	412		
80	247	240	285	238	135	214	136	130	130	132	134	174	134	243	256	242		
85	160	166	175	161	31.2	98.8	96.6	99.6	102	101	94.1	113	31.5	149	173	163		
90	109	106	98.0	60.8	2.20	47.2	70.2	77.1	80.5	78.3	68.0	41.9	0.04	65.4	101	106		
95	89.5	86.1	76.7	40.6	0.79	26.1	41.9	51.2	54.1	50.6	38.5	20.9	0.00	46.2	75.5	86.2		
100	68.3	65.3	51.9	23.7	1.79	20.1	36.5	42.7	43.9	42.3	34.0	13.5	0.34	26.6	52.6	65.5		
105	54.6	50.8	41.4	5.23	3.00	8.02	21.0	27.9	30.5	25.7	16.8	2.49	1.23	2.94	42.6	50.2		
110	51.4	44.8	16.2	4.76	4.14	5.13	15.5	17.4	16.2	14.7	11.2	2.00	2.79	1.56	16.6	45.0		
115	24.8	15.5	6.79	5.35	5.26	5.36	9.96	14.4	12.1	11.4	5.05	3.12	4.36	2.68	3.84	15.2		
120	8.09	6.84	5.20	6.80	6.38	6.28	6.23	10.3	8.51	6.86	2.69	4.23	5.81	3.57	1.79	4.14		
125	4.72	4.15	5.08	7.36	6.93	6.79	6.03	5.80	4.03	2.37	2.57	5.01	6.59	4.80	2.13	2.04		
130	3.50	4.09	5.11	7.83	7.04	7.18	5.82	4.63	2.67	2.45	3.05	5.67	6.89	5.70	2.47	1.94		
135	3.58	4.02	5.44	8.14	6.71	7.24	5.61	4.72	2.30	2.60	3.11	5.61	6.80	6.14	2.96	2.01		
140	3.67	3.96	5.81	8.24	6.53	7.29	5.83	4.80	2.47	2.68	3.35	5.54	6.60	7.03	3.47	2.35		
145	3.75	4.16	6.81	8.33	6.60	7.35	6.39	4.89	2.66	3.03	3.79	5.46	6.36	8.15	3.92	3.02		
150	3.82	5.19	7.00	8.67	6.67	7.59	6.81	5.11	2.84	3.24	3.93	5.24	6.60	9.04	4.11	3.46		
155	4.60	5.39	7.48	9.04	7.27	8.83	7.51	5.41	2.90	3.40	4.07	5.24	7.04	8.86	5.04	3.61		
160	5.05	6.07	8.70	10.5	7.27	10.3	8.37	5.92	3.04	3.56	4.21	5.24	8.38	8.77	5.83	3.91		
165	5.39	6.85	8.93	11.8	8.05	10.8	8.68	6.60	5.06	5.28	6.24	8.36	11.8	8.76	9.97	7.04		
170	5.95	7.00	9.28	12.2	8.49	12.1	9.11	7.04	6.52	6.51	7.33	9.41	12.9	8.74	12.1	8.69		
175	6.42	7.05	9.35	12.3	8.57	12.2	9.17	7.04	7.03	6.70	7.20	9.62	12.9	8.72	12.4	9.11		
180	6.95	7.08	9.38	12.4	8.61	12.3	9.20	7.04	7.08	6.74	7.03	9.48	12.4	8.71	12.3	9.16		



3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-355	Goniophotometer system	Verified by D908S standard lamp	
ST-R-359	Standard Lamp D908S	2022-07-19	2025-07-18
ST-R-357	AC Power Source	2024-01-29	2025-01-28
ST-R-S-422	Power Meter for Goniophotometer	2024-05-29	2025-05-28
ST-R-S-354	hygrothermograph for Goniophotometer	2024-05-29	2025-05-28
Uncertainty: Photometric Measurement(Goniophotometer): 2.94%, k=2			

4. Product Photo



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