

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): DLR0042(R6R8835120WS)

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	8.0W
Rated Initial Lamp Lumen	850 lm
Declared CCT	3500K

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:	25.5 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLR0042(R6R8835120WS)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1908250026	120.0	60	0.065	7.70	0.975

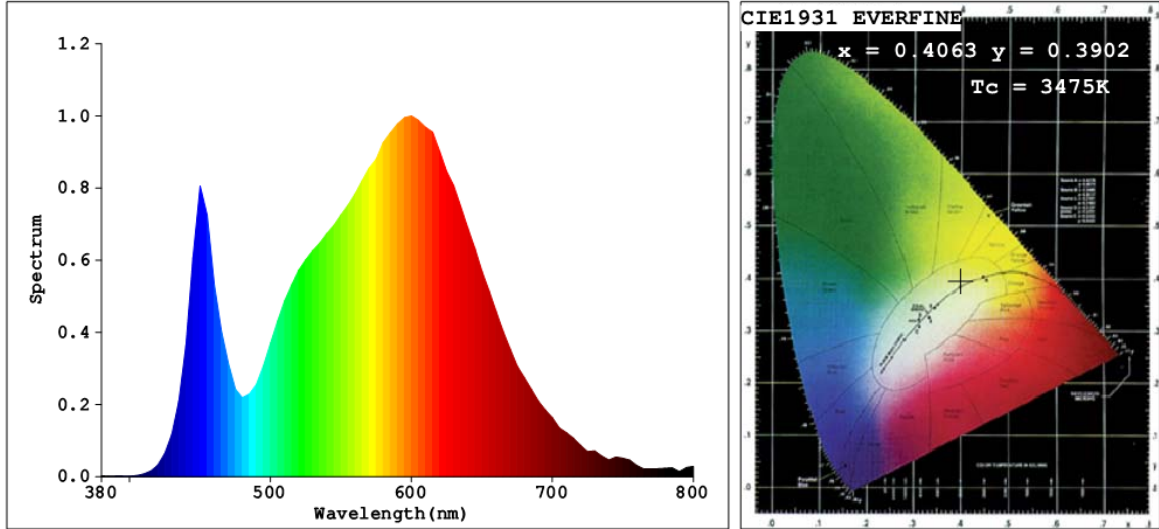
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	12
Frequency (Hz)	60	R2	89	R10	75
CCT (K)	3475	R3	95	R11	81
Duv	0.00044	R4	82	R12	64
Chromaticity (x, y)	x=0.4063 y=0.3902	R5	81	R13	83
Chromaticity (u', v')	u'=0.2366 v'=0.5112	R6	86	R14	97
Color Rendering Index (CRI)	83.0	R7	85	R15	76
R9	12	R8	64	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	896.73
Luminous Efficacy (lm/W)	116.46
Beam Angle (°)	98.5
Center Beam Candle Power (cd)	369.8

Spectral Power Distribution & Chromaticity Diagram

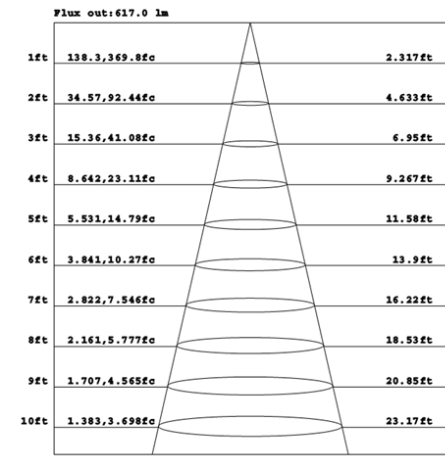
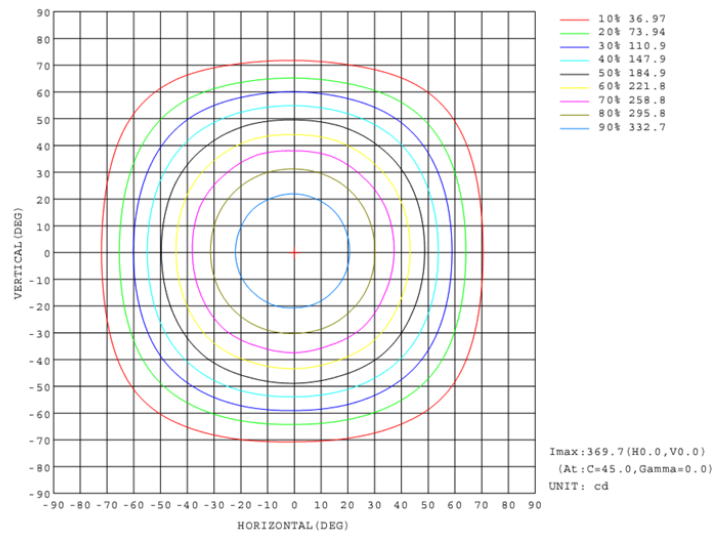
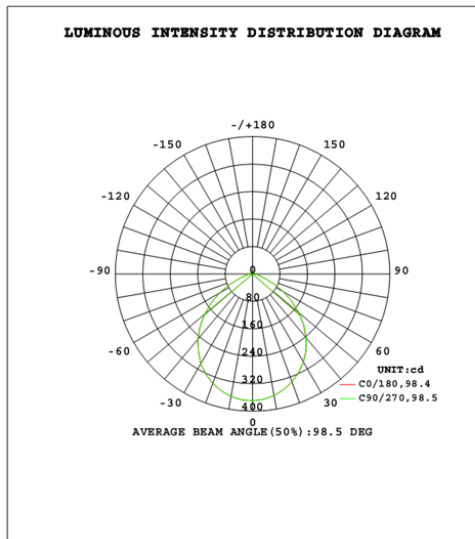


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	281.2	31.4%
0-40	452.4	50.4%
0-60	745.3	83.1%
60-90	112.3	12.5%
70-100	45.6	5.1%
90-120	17.0	1.9%
0-90	857.5	95.6%
90-180	39.2	4.4%
0-180	896.7	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	34.9	3.9%	90-100	5.8	0.6%
10-20	99.0	11.0%	100-110	5.6	0.6%
20-30	147.3	16.4%	110-120	5.6	0.6%
30-40	171.2	19.1%	120-130	5.5	0.6%
40-50	164.6	18.4%	130-140	5.2	0.6%
50-60	128.3	14.3%	140-150	4.6	0.5%
60-70	72.5	8.1%	150-160	3.7	0.4%
70-80	27.9	3.1%	160-170	2.4	0.3%
80-90	11.9	1.3%	170-180	0.9	0.1%

Photometric Data



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

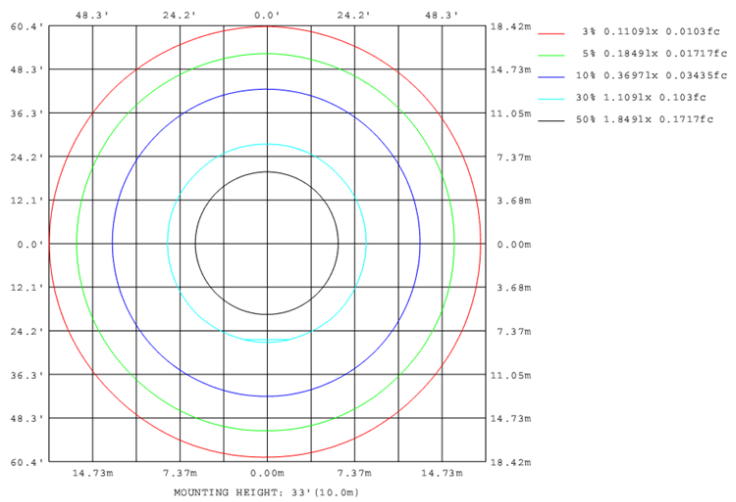
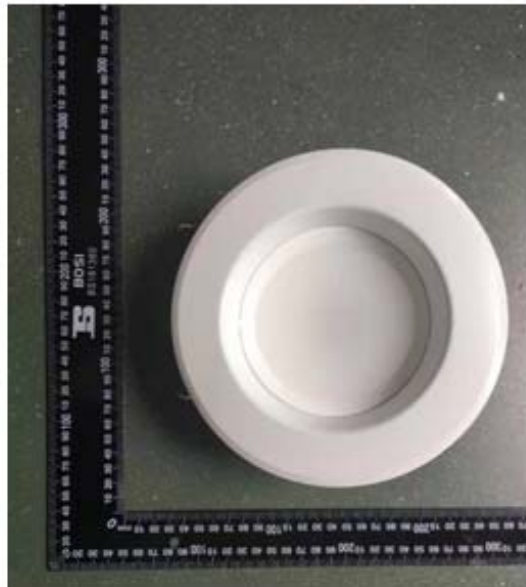
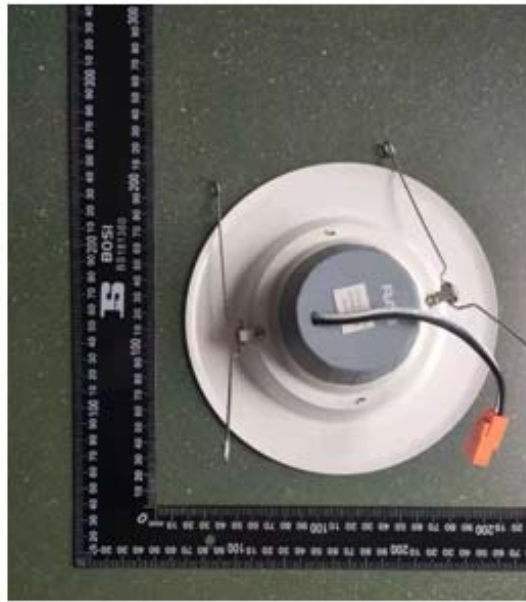


Table--1

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	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370			
5	367	367	367	367	367	367	367	368	368	368	368	368	368	368	368	367			
10	360	360	360	360	360	361	361	362	363	363	363	363	362	362	361	361			
15	349	349	349	349	349	351	351	352	353	353	353	353	353	352	351	350			
20	335	335	334	335	335	337	337	339	340	339	340	339	339	338	337	336			
25	317	317	316	317	318	319	320	322	323	323	323	322	322	321	320	318			
30	296	296	295	297	297	299	300	302	303	303	303	302	302	300	300	297			
35	272	268	271	269	273	272	276	275	276	279	276	279	275	277	272	273			
40	243	240	243	241	244	244	248	247	249	252	249	251	248	248	244	245			
45	210	208	210	209	212	212	216	216	217	219	217	219	216	216	212	212			
50	176	174	176	175	178	178	181	182	183	185	183	185	182	182	178	178			
55	139	139	138	140	140	143	144	147	148	148	148	148	147	145	143	140			
60	103	103	102	104	104	107	108	111	112	112	113	111	111	108	107	105			
65	67.5	67.9	67.2	68.7	68.8	71.3	72.2	74.8	76.5	76.1	76.9	75.3	75.1	72.8	71.9	69.3			
70	38.6	38.8	38.3	39.4	39.5	41.1	41.7	43.6	45.0	44.6	45.2	43.8	43.6	41.9	41.4	39.7			
75	22.6	22.8	22.6	23.1	23.1	23.8	24.1	25.0	25.6	25.4	25.6	25.0	24.9	24.1	23.9	23.1			
80	15.7	15.8	15.7	15.9	15.9	16.2	16.3	16.5	16.7	16.6	16.7	16.5	16.5	16.3	16.2	16.0			
85	9.88	9.91	9.74	10.1	10.2	10.6	10.8	11.3	11.9	11.8	11.9	11.6	11.6	11.1	11.0	10.5			
90	5.15	5.14	5.16	5.15	5.18	5.18	5.21	5.39	6.07	6.02	6.11	5.90	5.88	5.67	5.62	5.61			
95	4.96	4.96	4.97	4.96	4.99	4.97	4.98	4.98	5.56	5.57	5.57	5.56	5.55	5.57	5.56	5.57			
100	4.89	4.90	4.91	4.92	4.91	4.91	4.91	4.90	5.58	5.58	5.60	5.59	5.58	5.59	5.60	5.61			
105	4.93	4.95	4.96	4.95	4.96	4.95	4.94	4.93	5.67	5.65	5.67	5.67	5.67	5.68	5.69	5.71			
110	5.04	5.05	5.05	5.06	5.05	5.05	5.02	5.03	5.81	5.81	5.81	5.82	5.83	5.84	5.86	5.87			
115	5.21	5.22	5.23	5.23	5.22	5.22	5.19	5.19	6.00	6.00	6.01	6.02	6.02	6.04	6.05	6.07			
120	5.44	5.45	5.46	5.45	5.45	5.44	5.42	5.41	6.22	6.21	6.23	6.23	6.25	6.26	6.28	6.29			
125	5.70	5.71	5.72	5.72	5.71	5.70	5.67	5.66	6.45	6.44	6.46	6.47	6.48	6.51	6.51	6.53			
130	5.98	6.00	6.00	6.01	5.99	5.98	5.96	5.95	6.69	6.70	6.71	6.72	6.73	6.76	6.77	6.78			
135	6.29	6.29	6.31	6.31	6.30	6.28	6.26	6.25	6.95	6.97	6.97	6.99	7.00	7.02	7.03	7.06			
140	6.62	6.63	6.65	6.65	6.64	6.63	6.60	6.58	7.25	7.26	7.26	7.29	7.29	7.32	7.33	7.35			
145	6.98	6.99	7.00	7.01	7.00	6.99	6.97	6.94	7.55	7.56	7.56	7.59	7.60	7.62	7.63	7.65			
150	7.35	7.36	7.38	7.37	7.38	7.35	7.35	7.31	7.87	7.87	7.88	7.91	7.92	7.94	7.94	7.97			
155	7.74	7.73	7.76	7.75	7.75	7.73	7.72	7.69	8.19	8.20	8.20	8.23	8.23	8.26	8.26	8.29			
160	8.12	8.12	8.14	8.13	8.14	8.12	8.11	8.09	8.50	8.51	8.51	8.54	8.53	8.55	8.56	8.58			
165	8.47	8.48	8.50	8.49	8.50	8.48	8.47	8.45	8.75	8.77	8.77	8.79	8.79	8.81	8.81	8.83			
170	8.79	8.79	8.81	8.80	8.81	8.79	8.80	8.77	8.96	8.96	8.97	8.98	8.99	9.00	9.00	9.00			
175	9.02	9.02	9.03	9.04	9.04	9.03	9.03	9.02	9.09	9.10	9.11	9.12	9.12	9.13	9.12	9.12			
180	9.15	9.16	9.17	9.17	9.19	9.17	9.18	9.17	9.15	9.16	9.16	9.17	9.18	9.18	9.18	9.17			

3. Product Photo



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