

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): DLR0058(R6R8935120WS)

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	725 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:	25.6 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLR0058(R6R8935120WS)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1908250042	120.0	60	0.067	7.95	0.976

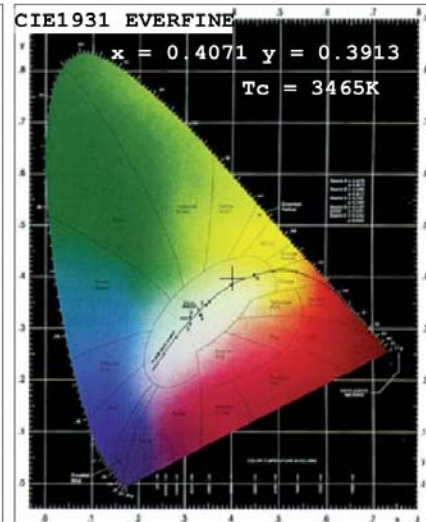
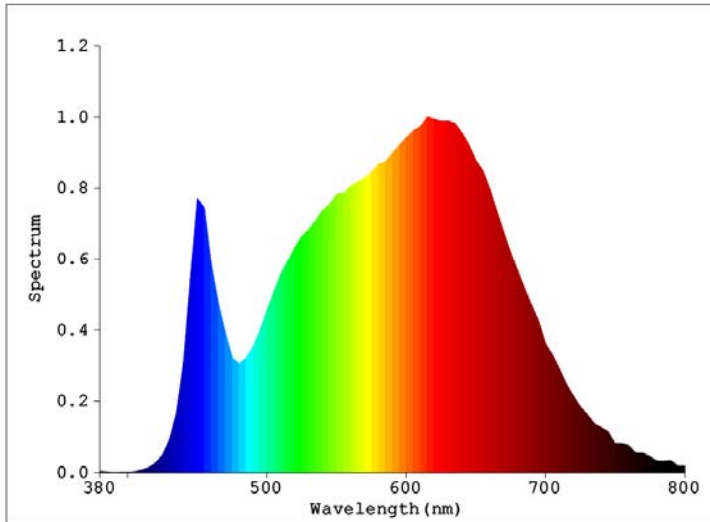
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	94	R9	71
Frequency (Hz)	60	R2	96	R10	88
CCT (K)	3465	R3	95	R11	93
Duv	0.00016	R4	94	R12	74
Chromaticity (x, y)	x=0.4071 y=0.3913	R5	93	R13	94
Chromaticity (u', v')	u'=0.2367 v'=0.5118	R6	93	R14	97
Color Rendering Index (CRI)	93.4	R7	95	R15	92
R9	71	R8	88	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	832.69
Luminous Efficacy (lm/W)	104.74
Beam Angle (°)	99.0
Center Beam Candle Power (cd)	342.4

Spectral Power Distribution & Chromaticity Diagram

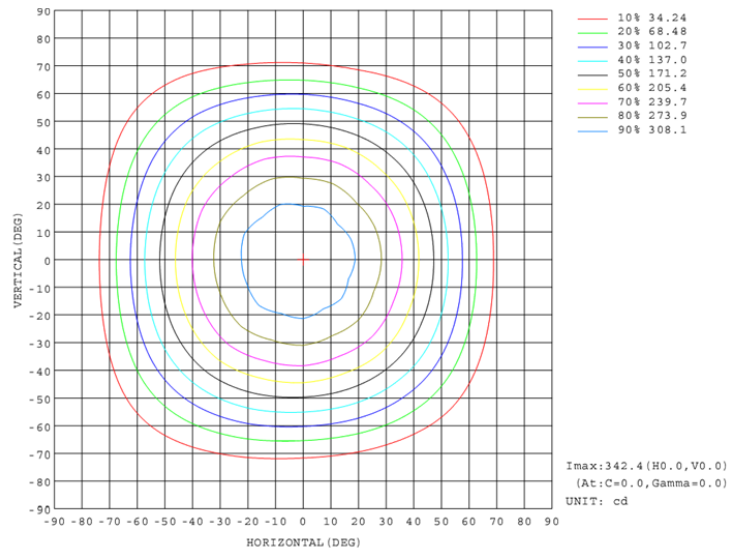
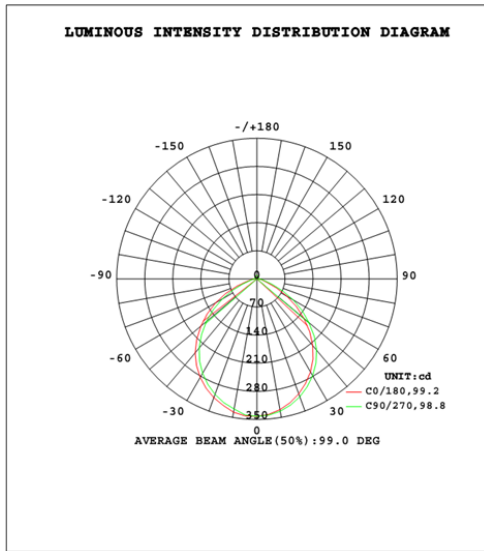


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	258.2	31.0%
0-40	416.3	50.0%
0-60	690.7	82.9%
60-90	105.7	12.7%
70-100	41.7	5.0%
90-120	15.7	1.9%
0-90	796.4	95.6%
90-180	36.3	4.4%
0-180	832.7	100.0%

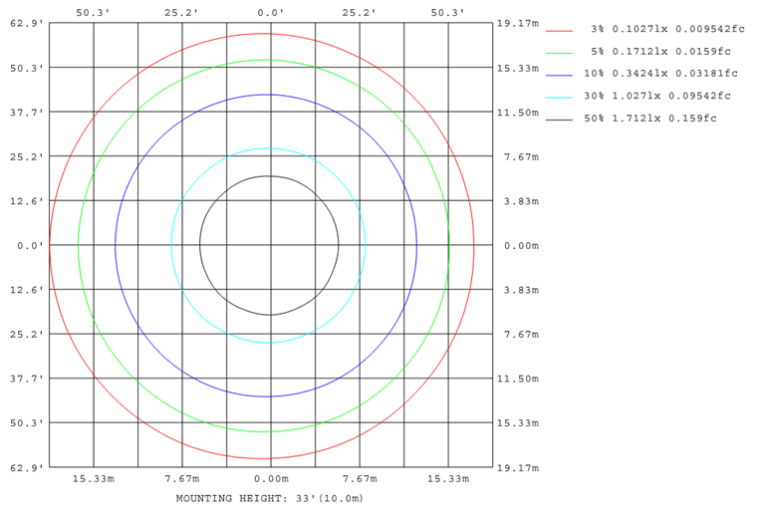
Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	32.2	3.9%	90-100	5.4	0.6%
10-20	90.9	10.9%	100-110	5.2	0.6%
20-30	135.1	16.2%	110-120	5.1	0.6%
30-40	158.1	19.0%	120-130	5.1	0.6%
40-50	153.2	18.4%	130-140	4.8	0.6%
50-60	121.1	14.5%	140-150	4.3	0.5%
60-70	69.4	8.3%	150-160	3.4	0.4%
70-80	25.8	3.1%	160-170	2.3	0.3%
80-90	10.5	1.3%	170-180	0.8	0.1%

Photometric Data



Flux out: 569.6 lm

Height	Avg, Emax	Angle: 98.68deg	Diameter
1ft	127.7, 342.4fc		2.328ft
2ft	31.91, 85.59fc		4.657ft
3ft	14.18, 38.04fc		6.985ft
4ft	7.978, 21.40fc		9.313ft
5ft	5.106, 13.70fc		11.64ft
6ft	3.546, 9.510fc		13.97ft
7ft	2.605, 6.987fc		16.3ft
8ft	1.995, 5.350fc		18.63ft
9ft	1.576, 4.227fc		20.95ft
10ft	1.277, 3.424fc		23.28ft



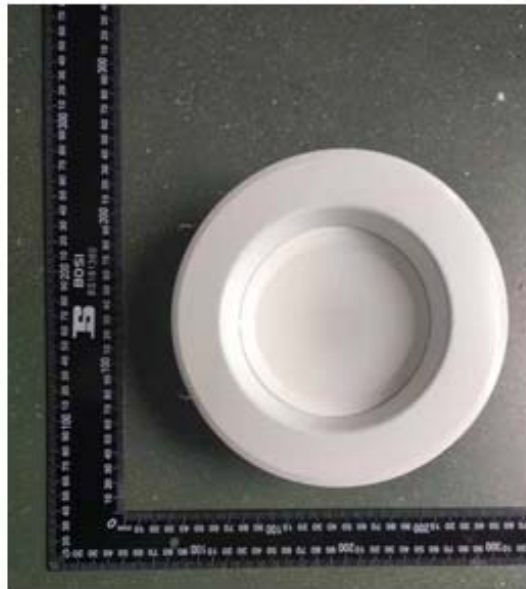
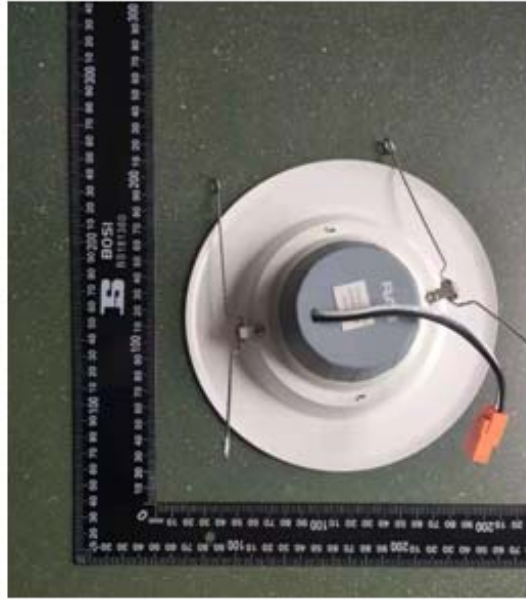
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342			
5	338	338	339	340	340	341	341	342	342	342	341	340	340	339	338	338			
10	330	327	332	329	335	332	337	336	337	337	333	335	329	332	327	330			
15	319	316	321	319	325	323	329	326	326	329	323	325	319	321	316	319			
20	305	302	307	306	312	311	317	314	315	317	311	313	306	307	302	304			
25	287	285	290	290	296	296	302	300	300	303	297	297	290	290	285	287			
30	267	265	271	271	278	278	284	283	283	285	279	278	271	271	265	267			
35	244	243	249	250	257	258	264	263	263	264	258	257	250	249	243	244			
40	216	216	222	224	231	234	240	240	240	241	234	232	224	222	216	216			
45	186	186	192	195	202	206	212	212	213	213	206	203	196	192	187	186			
50	152	155	158	164	169	175	181	182	183	182	176	170	165	159	156	153			
55	120	123	126	133	138	144	148	151	152	149	145	139	133	127	124	120			
60	86.3	89.6	92.9	99.5	105	111	115	119	120	116	112	106	100	93.9	90.4	87.0			
65	53.3	56.3	59.4	65.7	71.0	77.8	81.4	85.1	86.0	82.5	78.9	72.1	66.9	60.5	57.2	54.1			
70	28.7	30.4	32.3	36.6	40.5	45.9	48.9	52.0	52.8	49.7	46.8	41.4	37.5	33.1	31.0	29.1			
75	16.8	17.6	18.4	20.2	21.9	24.4	25.9	27.5	27.9	26.2	24.7	22.3	20.6	18.7	17.9	17.1			
80	12.3	12.8	13.2	14.0	14.6	15.3	15.8	16.5	16.7	16.1	15.6	14.9	14.3	13.5	13.1	12.6			
85	6.67	7.22	7.72	8.79	9.59	10.7	11.2	11.8	12.2	11.6	11.1	10.1	9.30	8.27	7.77	7.26			
90	4.58	4.59	4.64	4.67	4.75	5.15	5.55	6.06	6.64	6.11	5.68	5.22	5.16	5.17	5.14	5.15			
95	4.44	4.44	4.48	4.48	4.53	4.53	4.57	4.54	5.13	5.14	5.14	5.15	5.15	5.14	5.15	5.13			
100	4.41	4.42	4.43	4.43	4.44	4.43	4.44	4.41	5.14	5.14	5.16	5.17	5.20	5.19	5.21	5.19			
105	4.47	4.48	4.47	4.48	4.45	4.45	4.42	4.41	5.21	5.20	5.24	5.26	5.29	5.31	5.33	5.32			
110	4.60	4.63	4.60	4.60	4.55	4.53	4.49	4.48	5.34	5.35	5.39	5.41	5.46	5.47	5.50	5.49			
115	4.79	4.82	4.78	4.77	4.72	4.69	4.63	4.62	5.51	5.53	5.57	5.60	5.66	5.68	5.70	5.69			
120	5.02	5.05	5.02	5.00	4.94	4.90	4.84	4.81	5.70	5.73	5.78	5.82	5.88	5.89	5.93	5.92			
125	5.29	5.31	5.28	5.25	5.19	5.14	5.08	5.05	5.94	5.95	6.02	6.06	6.12	6.13	6.16	6.15			
130	5.57	5.59	5.56	5.52	5.46	5.41	5.34	5.31	6.17	6.19	6.26	6.30	6.36	6.39	6.42	6.40			
135	5.88	5.89	5.86	5.82	5.76	5.71	5.63	5.59	6.44	6.45	6.52	6.56	6.63	6.66	6.68	6.68			
140	6.21	6.22	6.18	6.15	6.08	6.03	5.95	5.91	6.71	6.74	6.79	6.85	6.90	6.94	6.96	6.95			
145	6.55	6.56	6.53	6.51	6.43	6.37	6.30	6.24	7.00	7.04	7.08	7.14	7.19	7.22	7.25	7.25			
150	6.92	6.93	6.90	6.87	6.78	6.74	6.66	6.62	7.30	7.33	7.39	7.44	7.50	7.53	7.55	7.55			
155	7.29	7.29	7.27	7.24	7.17	7.11	7.03	7.00	7.62	7.64	7.69	7.74	7.79	7.82	7.84	7.83			
160	7.65	7.66	7.64	7.61	7.55	7.49	7.42	7.38	7.91	7.93	7.98	8.03	8.06	8.09	8.09	8.08			
165	8.01	8.02	8.00	7.97	7.91	7.85	7.79	7.76	8.18	8.21	8.24	8.27	8.30	8.31	8.31	8.29			
170	8.29	8.31	8.29	8.26	8.22	8.18	8.13	8.09	8.39	8.41	8.44	8.46	8.47	8.48	8.46	8.45			
175	8.50	8.51	8.51	8.49	8.47	8.43	8.39	8.37	8.54	8.56	8.57	8.59	8.58	8.58	8.57	8.54			
180	8.60	8.62	8.62	8.62	8.61	8.60	8.56	8.53	8.60	8.62	8.62	8.63	8.61	8.59	8.56	8.54			

3. Product Photo



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