

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): DLR0056(R6R8927120WS)

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

**Type of
Luminaire:** Downlights

Report Date: 2019-09-30

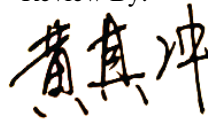
Prepared By:

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	2700K

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	2019-09-28	Test Ambient:	25.6 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLR0056(R6R8927120WS)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
1908250040	120.0	60	0.065	7.68	0.975

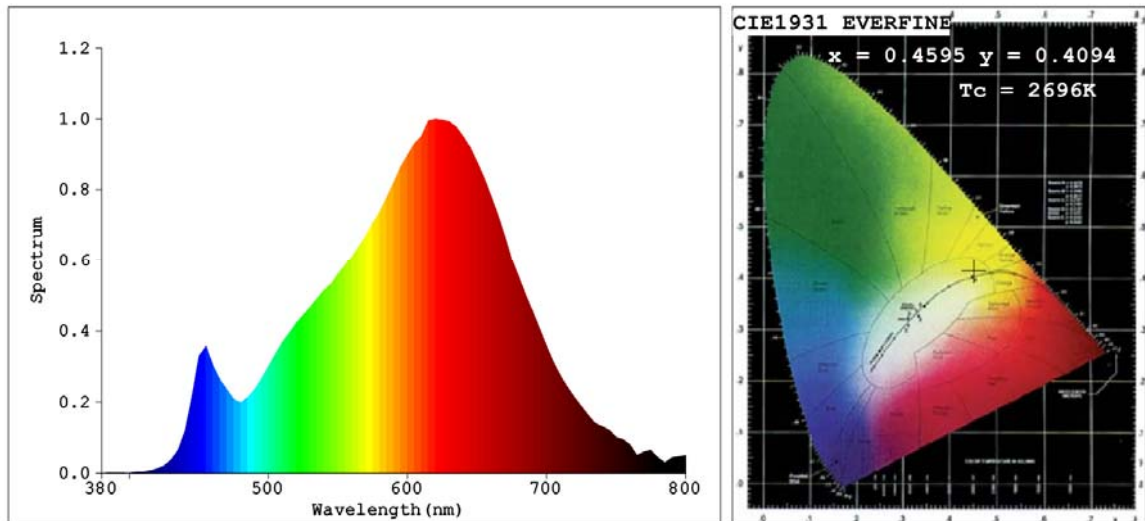
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	93	R9	60
Frequency (Hz)	60	R2	97	R10	93
CCT (K)	2696	R3	99	R11	94
Duv	0.00042	R4	93	R12	84
Chromaticity (x, y)	x=0.4595 y=0.4094	R5	93	R13	95
Chromaticity (u', v')	u'=0.2628 v'=0.5268	R6	97	R14	99
Color Rendering Index (CRI)	93.2	R7	91	R15	89
R9	60	R8	81	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	736.30
Luminous Efficacy (lm/W)	95.87
Beam Angle (°)	99.4
Center Beam Candle Power (cd)	301.1

Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	228.3	31.0%
0-40	368.1	50.0%
0-60	611.0	83.0%
60-90	93.4	12.7%
70-100	36.7	5.0%
90-120	13.8	1.9%
0-90	704.4	95.7%
90-180	32.0	4.3%
0-180	736.3	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	28.4	3.9%	90-100	4.7	0.6%
10-20	80.4	10.9%	100-110	4.6	0.6%
20-30	119.5	16.2%	110-120	4.5	0.6%
30-40	139.8	19.0%	120-130	4.4	0.6%
40-50	135.5	18.4%	130-140	4.2	0.6%
50-60	107.5	14.6%	140-150	3.8	0.5%
60-70	61.4	8.3%	150-160	3.0	0.4%
70-80	22.6	3.1%	160-170	2.0	0.3%
80-90	9.3	1.3%	170-180	0.7	0.1%

Photometric Data

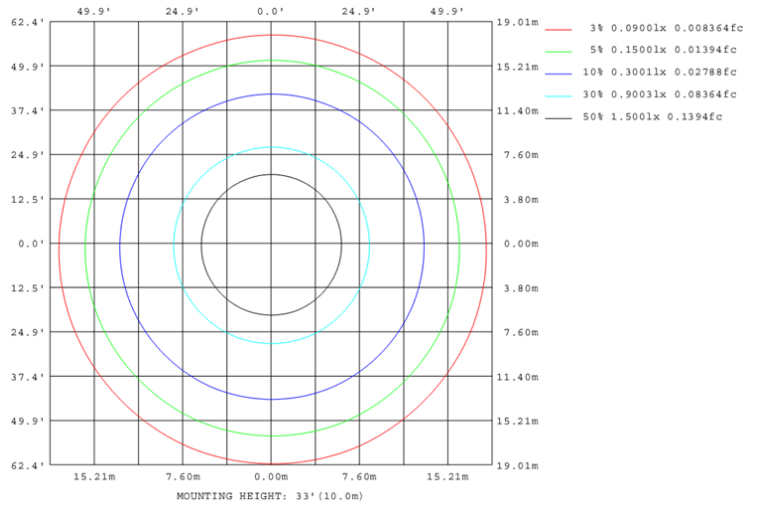
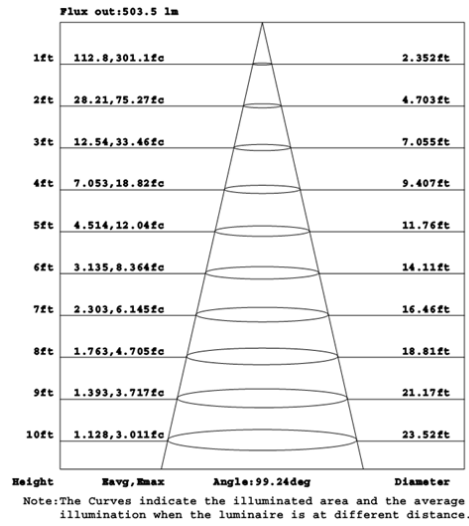
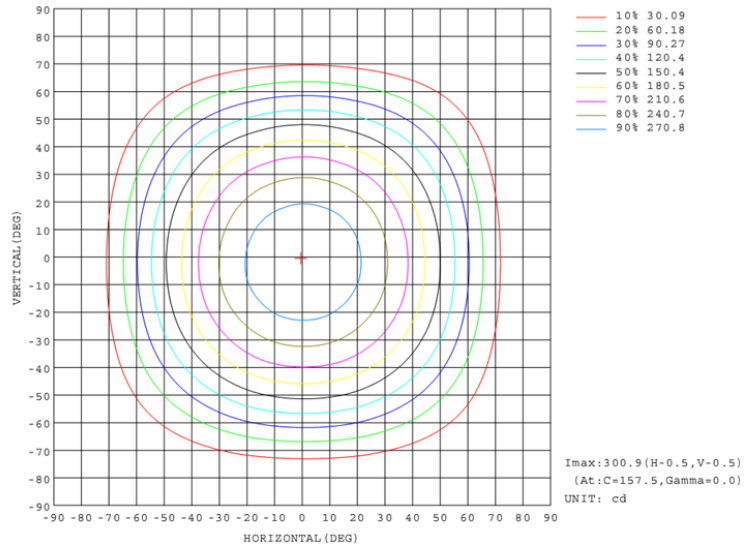
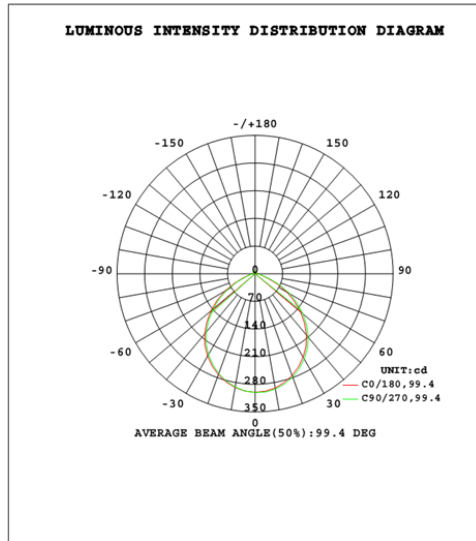


Table--1

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	300	300	301	301	301	301	301	301	300	300	301	301	301	301	301	301			
5	299	299	300	300	300	300	300	300	298	298	298	297	298	298	299	299			
10	294	295	296	296	296	296	295	295	293	292	291	291	291	292	293	294			
15	286	287	288	289	289	289	287	286	284	282	282	281	282	282	284	285			
20	274	276	278	279	278	278	276	275	272	270	269	268	269	270	272	273			
25	260	263	264	266	265	265	263	261	258	256	254	253	254	255	257	259			
30	244	247	249	250	249	249	247	245	241	238	237	236	237	237	240	242			
35	225	229	230	232	231	231	228	226	222	219	218	216	217	218	221	223			
40	203	207	209	211	210	209	206	204	199	195	194	192	193	194	197	200			
45	178	182	184	186	185	184	181	178	173	169	168	166	167	168	171	174			
50	150	155	157	159	158	157	154	151	146	142	140	138	139	140	144	147			
55	123	127	129	131	130	129	125	122	118	114	112	110	111	112	116	119			
60	93.3	98.0	100	102	101	100	96.1	92.9	88.5	84.1	82.2	80.2	81.4	82.6	86.6	89.8			
65	63.2	67.8	69.8	72.0	70.9	69.8	65.8	62.6	58.7	54.4	52.7	50.8	51.9	53.0	56.8	59.9			
70	36.1	39.7	41.3	43.2	42.3	41.4	38.1	35.6	32.7	29.7	28.6	27.4	28.1	28.8	31.3	33.6			
75	19.5	21.2	22.0	22.9	22.5	22.1	20.5	19.3	18.0	16.7	16.3	15.8	16.1	16.4	17.5	18.4			
80	13.0	13.5	13.7	14.1	13.9	13.7	13.2	12.9	12.6	12.1	11.9	11.6	11.7	11.9	12.4	12.8			
85	8.59	9.38	9.70	10.1	9.88	9.69	9.00	8.49	8.16	7.43	7.13	6.77	6.96	7.14	7.81	8.32			
90	4.20	4.48	4.74	5.07	4.90	4.75	4.30	4.14	4.55	4.57	4.56	4.58	4.55	4.57	4.55	4.60			
95	3.99	3.98	4.03	4.02	4.03	3.99	3.99	3.94	4.54	4.55	4.56	4.56	4.55	4.55	4.54	4.55			
100	3.92	3.91	3.93	3.90	3.92	3.89	3.90	3.87	4.58	4.59	4.60	4.59	4.60	4.58	4.58	4.56			
105	3.93	3.92	3.91	3.91	3.89	3.90	3.88	3.89	4.67	4.69	4.70	4.69	4.71	4.67	4.66	4.64			
110	4.01	4.01	3.98	3.98	3.95	3.97	3.95	3.97	4.81	4.82	4.84	4.84	4.84	4.82	4.80	4.77			
115	4.15	4.15	4.10	4.10	4.08	4.10	4.08	4.11	4.99	5.01	5.03	5.02	5.02	4.99	4.97	4.93			
120	4.35	4.33	4.29	4.30	4.26	4.27	4.27	4.31	5.19	5.19	5.23	5.22	5.20	5.18	5.16	5.11			
125	4.57	4.55	4.51	4.50	4.47	4.48	4.49	4.52	5.39	5.41	5.44	5.42	5.42	5.39	5.36	5.31			
130	4.81	4.78	4.74	4.73	4.70	4.72	4.71	4.76	5.61	5.63	5.66	5.64	5.64	5.60	5.57	5.52			
135	5.07	5.04	4.99	4.98	4.95	4.96	4.97	5.01	5.85	5.87	5.89	5.88	5.86	5.83	5.80	5.75			
140	5.35	5.33	5.28	5.26	5.23	5.24	5.25	5.29	6.09	6.12	6.14	6.13	6.12	6.08	6.05	6.00			
145	5.66	5.63	5.59	5.56	5.54	5.55	5.56	5.60	6.35	6.39	6.40	6.39	6.38	6.34	6.32	6.26			
150	5.98	5.95	5.92	5.88	5.86	5.87	5.88	5.91	6.63	6.65	6.65	6.66	6.65	6.60	6.58	6.53			
155	6.32	6.28	6.25	6.22	6.20	6.20	6.22	6.26	6.90	6.91	6.92	6.91	6.90	6.86	6.84	6.80			
160	6.66	6.62	6.58	6.56	6.54	6.55	6.56	6.59	7.13	7.15	7.15	7.15	7.13	7.10	7.07	7.04			
165	6.99	6.95	6.92	6.90	6.88	6.88	6.89	6.92	7.34	7.35	7.35	7.33	7.31	7.30	7.26	7.26			
170	7.27	7.24	7.21	7.20	7.18	7.18	7.19	7.21	7.49	7.50	7.49	7.48	7.47	7.45	7.43	7.41			
175	7.48	7.46	7.45	7.42	7.40	7.40	7.40	7.42	7.58	7.59	7.57	7.56	7.54	7.53	7.52	7.51			
180	7.61	7.59	7.58	7.57	7.55	7.54	7.54	7.55	7.60	7.60	7.57	7.56	7.55	7.54	7.54	7.54			

3. Product Photo



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