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): DLR0110(R4S7950120WB)

Report Type:	Testing and Report According to IES LM-79-2008
Type of Luminaire:	Downlights
Report Date:	2020-09-15

Prepared By:

Test & Report By:

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Review By:

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1.1 Rated Values:	
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	7.0W
Rated Initial Lamp Lumen	600 lm
Declared CCT	5000K

1.2 Test Specifications:

Test item	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	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°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.

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 25ºC ±1ºC. 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 25ºC ±1ºC. 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.

2.1.1 Electrical, Photometric and Chromaticity Measurements

Test date	2020-09-15	Test Ambient:	25.3 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLR0110(R4S7950120WB)	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202009150021	120.0	60	0.054	6.37	0.976

Chromaticity Measurement - Sphere-Spectroradiometer Method:

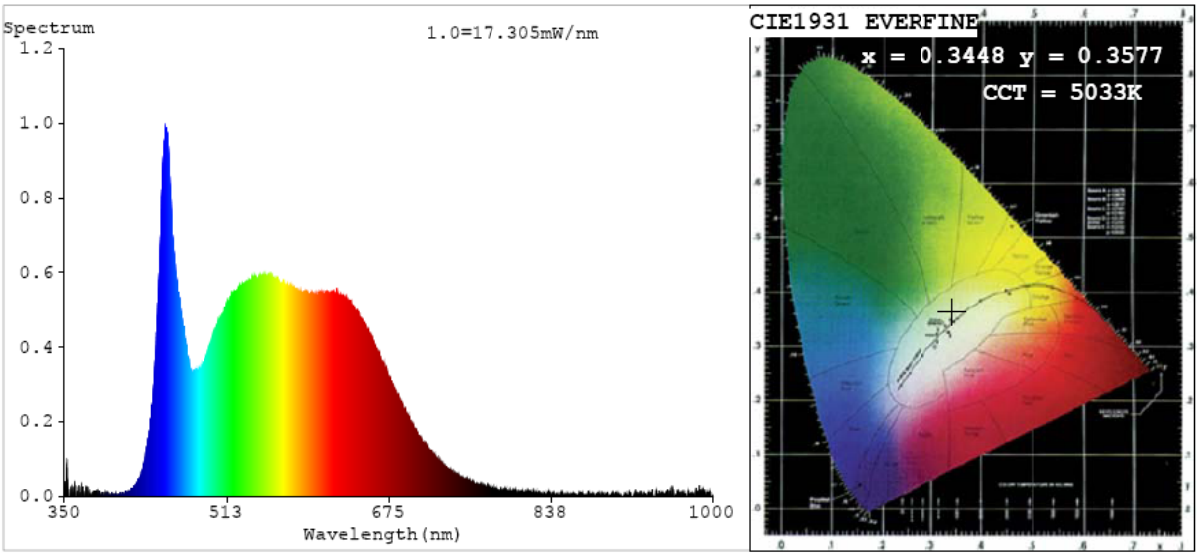
Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	5033
Duv	0.0032
Chromaticity (x, y)	x=0.3448 y=0.3577
Chromaticity (u', v')	u'=0.2089 v'=0.4876
Color Rendering Index (CRI)	93.0
R9	72

Special Color Rendering Indices			
R1	93	R9	72
R2	94	R10	86
R3	94	R11	93
R4	93	R12	71
R5	92	R13	93
R6	91	R14	96
R7	96	R15	92
R8	90	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	687.55
Luminous Efficacy (lm/W)	107.94
Beam Angle (°)	107.3
Center Beam Candle Power (cd)	257.3

Spectral Power Distribution & Chromaticity Diagram



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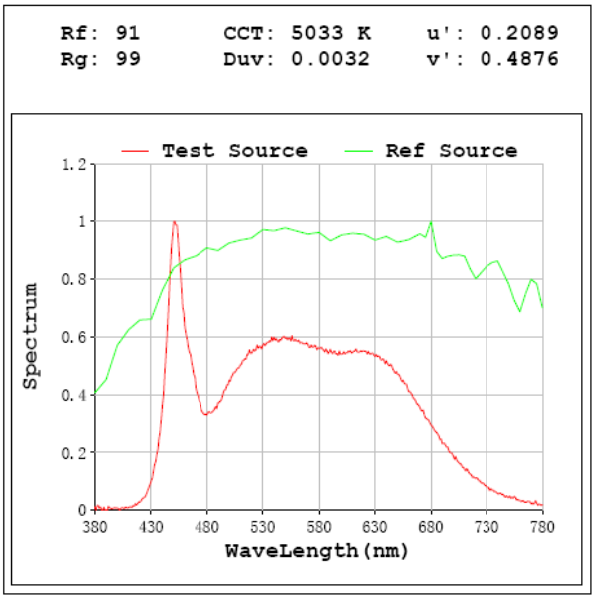
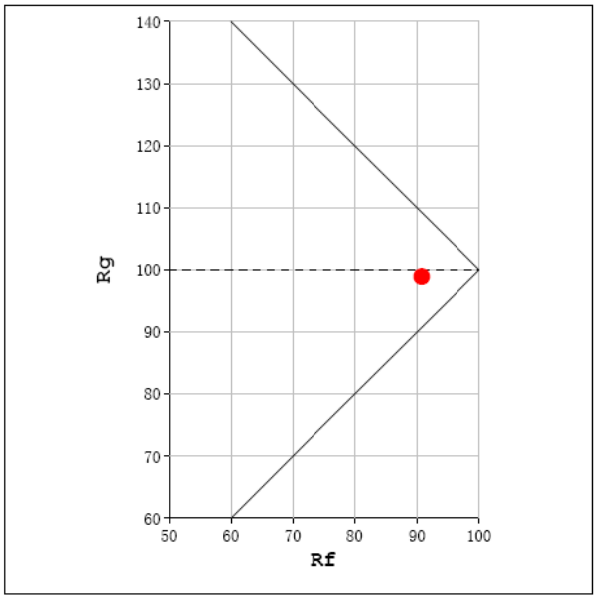
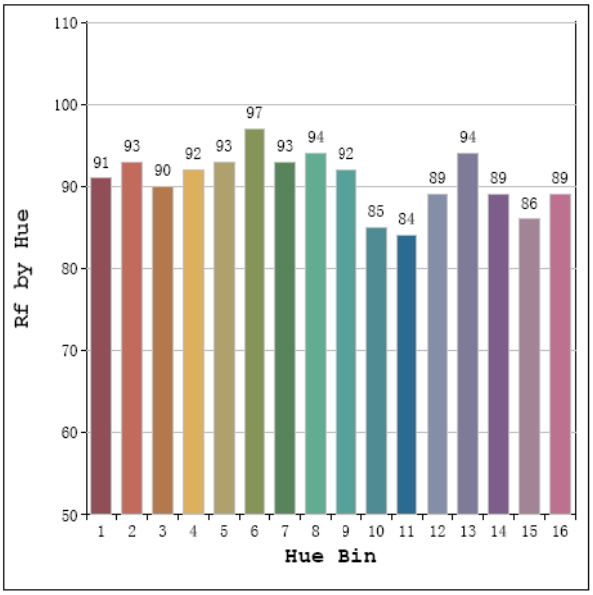
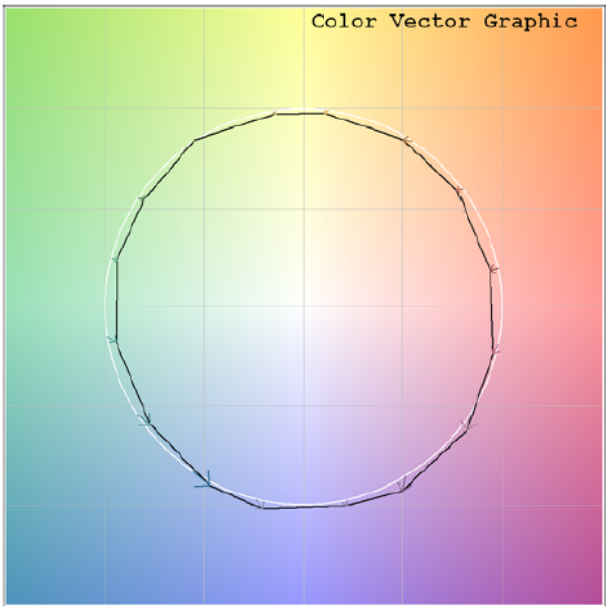






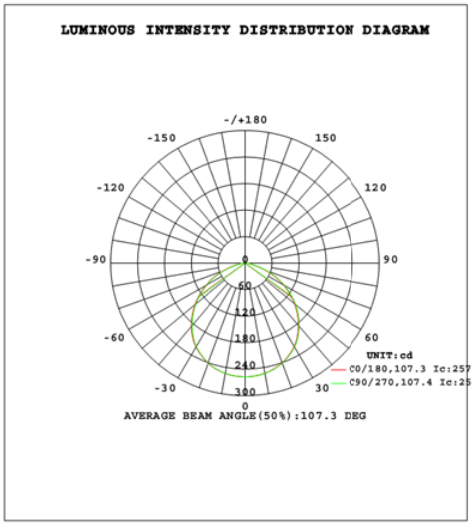


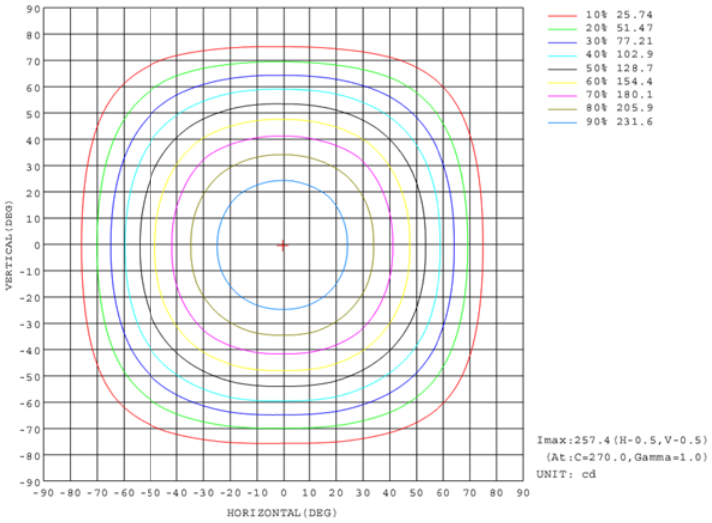
Zonal Lumen Tabulation

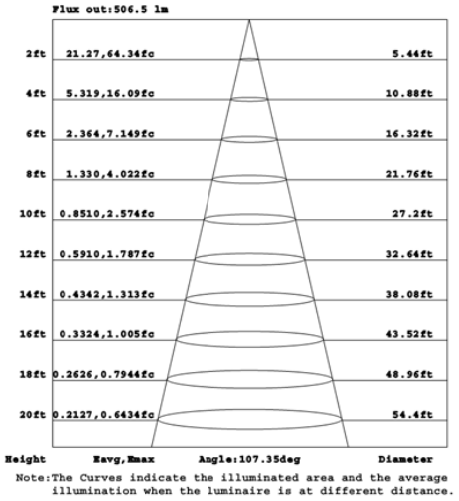
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	200.9	29.2%
0-40	328.9	47.8%
0-60	570.1	82.9%
60-90	117.4	17.1%
70-100	41.6	6.0%
90-120	0.0	0.0%
0-90	687.6	100.0%
90-180	0.0	0.0%
0-180	687.6	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	24.4	3.5%	90-100	0.0	0.0%
10-20	70.1	10.2%	100-110	0.0	0.0%
20-30	106.5	15.5%	110-120	0.0	0.0%
30-40	128.0	18.6%	120-130	0.0	0.0%
40-50	129.7	18.9%	130-140	0.0	0.0%
50-60	111.5	16.2%	140-150	0.0	0.0%
60-70	75.9	11.0%	150-160	0.0	0.0%
70-80	31.9	4.6%	160-170	0.0	0.0%
80-90	9.7	1.4%	170-180	0.0	0.0%

Photometric Data







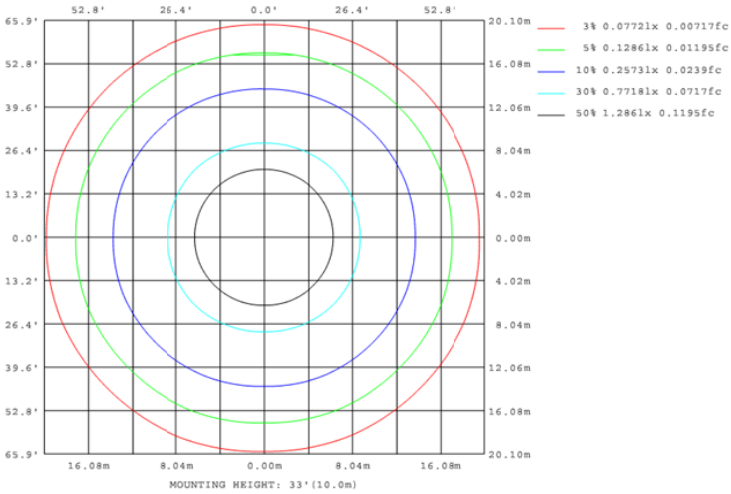
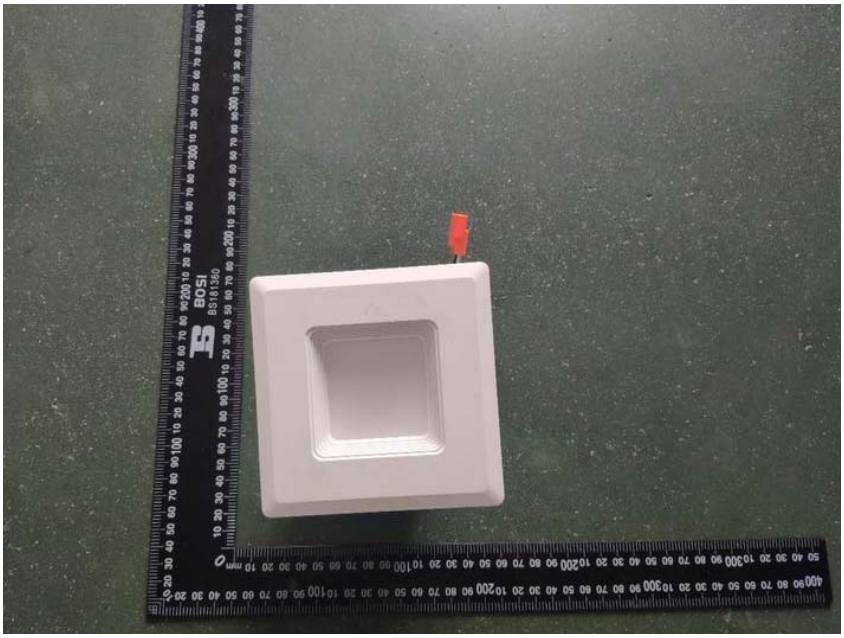


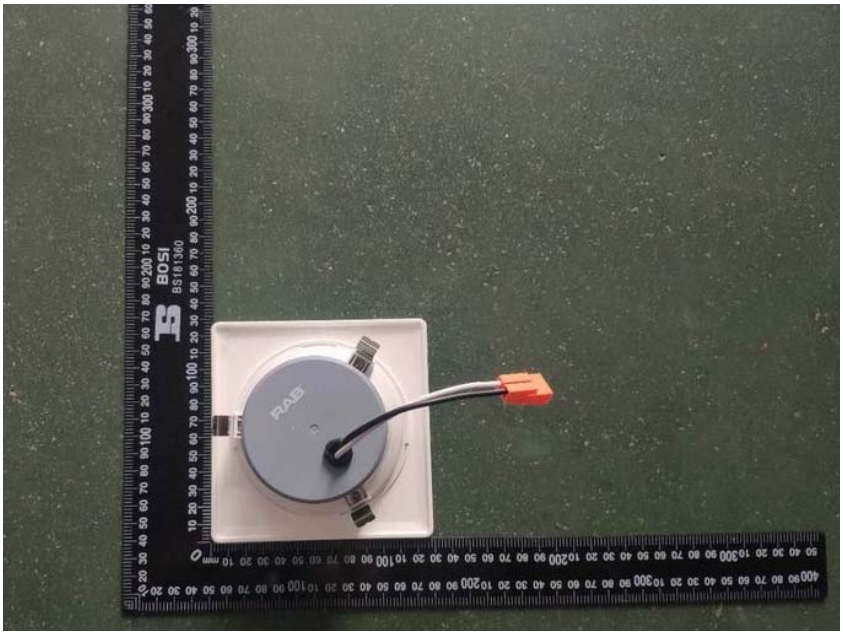
Table--1

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	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257			
5	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256			
10	253	253	253	253	254	254	254	254	254	253	253	253	253	253	253	253			
15	248	248	248	248	248	249	249	249	248	248	248	248	248	248	248	248			
20	240	241	241	241	241	242	242	242	241	241	241	241	240	240	240	240			
25	230	231	231	232	231	232	232	232	231	231	232	231	230	230	231	230			
30	218	219	219	220	219	220	221	221	220	220	220	219	218	218	219	218			
35	202	205	206	206	204	207	207	207	205	206	206	205	203	204	205	204			
40	184	187	190	189	186	189	192	190	187	188	191	187	184	186	189	186			
45	164	168	171	169	167	170	173	171	167	169	171	167	165	166	169	167			
50	143	147	149	149	146	149	151	150	146	148	149	147	144	145	147	146			
55	121	125	125	127	124	127	128	128	124	126	126	125	121	123	124	124			
60	97.5	102	102	103	101	105	104	105	101	103	102	101	98.1	99.8	100	99.8			
65	72.7	76.6	77.2	78.6	76.2	79.8	79.6	80.0	77.1	78.2	78.2	76.3	73.5	74.9	75.8	74.9			
70	47.4	51.0	52.9	53.1	50.9	54.2	55.3	54.5	51.9	52.8	54.0	51.0	48.5	49.5	51.5	49.6			
75	25.4	28.2	29.7	30.0	28.3	30.8	31.8	31.2	29.1	29.6	30.6	28.3	26.3	27.0	28.6	27.1			
80	13.8	14.5	14.6	15.0	14.9	15.4	15.7	15.3	15.0	15.0	15.1	14.5	14.2	14.2	14.1	14.1			
85	7.85	8.35	8.30	8.87	8.85	9.16	8.88	9.12	9.29	9.05	8.70	8.55	8.31	8.20	8.16	8.13			
90	4.37	4.38	4.41	4.42	4.45	4.48	4.50	4.51	4.78	4.74	4.68	4.68	4.67	4.68	4.67	4.67			

3. Product Photo





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