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): DLR0116(R6R14950120WS)

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:

Engineer: Sun Fangfang

Review By:

Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	14.0W
Rated Initial Lamp Lumen	1200 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	DLR0116(R6R14950120WS)	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202009150015	120.0	60	0.116	13.70	0.981

Chromaticity Measurement - Sphere-Spectroradiometer Method:

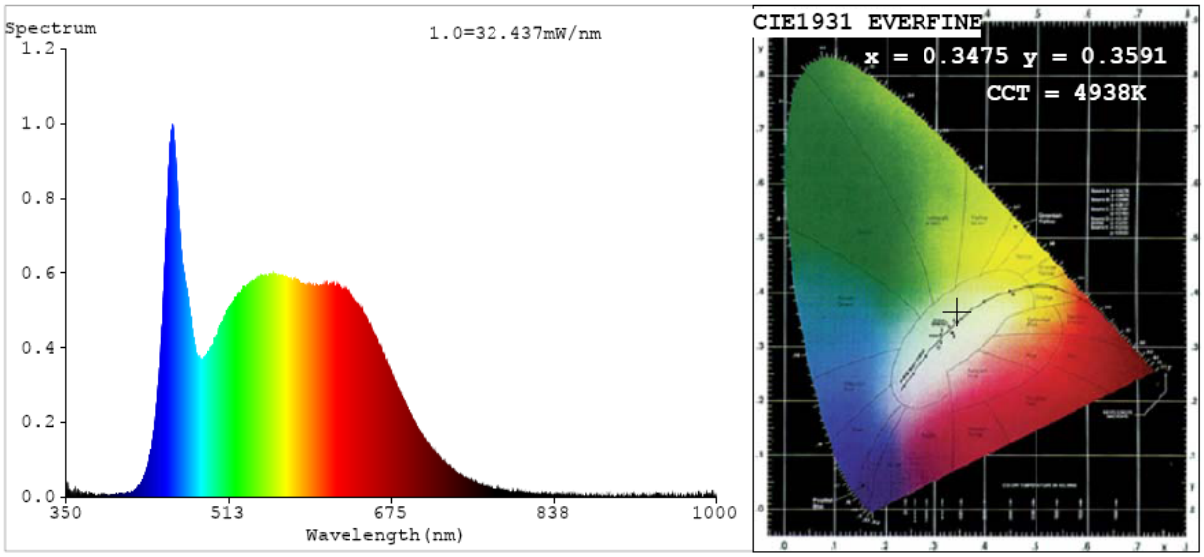
Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4938
Duv	0.0028
Chromaticity (x, y)	x=0.3475 y=0.3591
Chromaticity (u', v')	u'=0.2101 v'=0.4886
Color Rendering Index (CRI)	92.6
R9	73

Special Color Rendering Indices			
R1	93	R9	73
R2	97	R10	91
R3	98	R11	89
R4	88	R12	64
R5	90	R13	95
R6	93	R14	99
R7	93	R15	91
R8	88	--	--

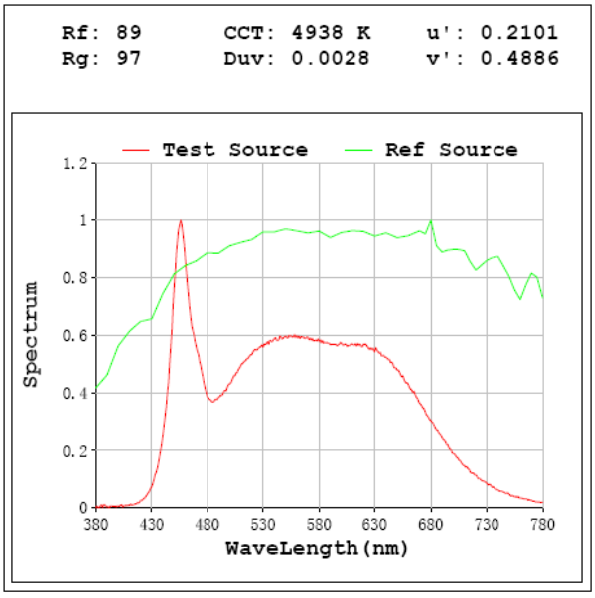
Photometric Measurement – Goniophotometer Method:

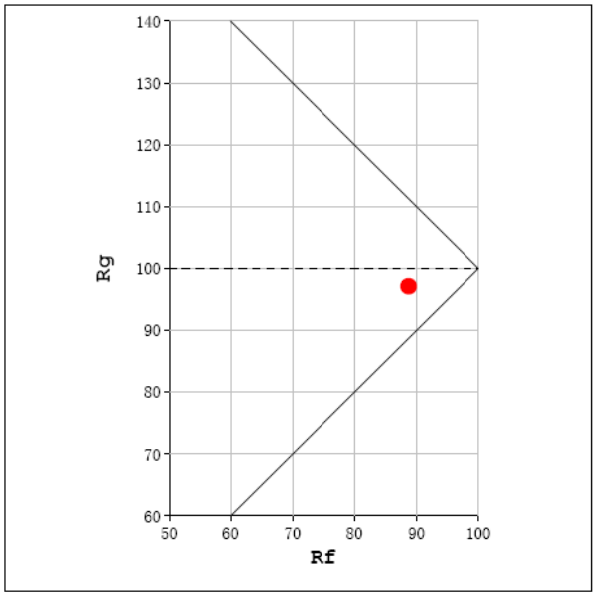
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1311.6
Luminous Efficacy (lm/W)	95.74
Beam Angle (°)	99.3
Center Beam Candle Power (cd)	560.7

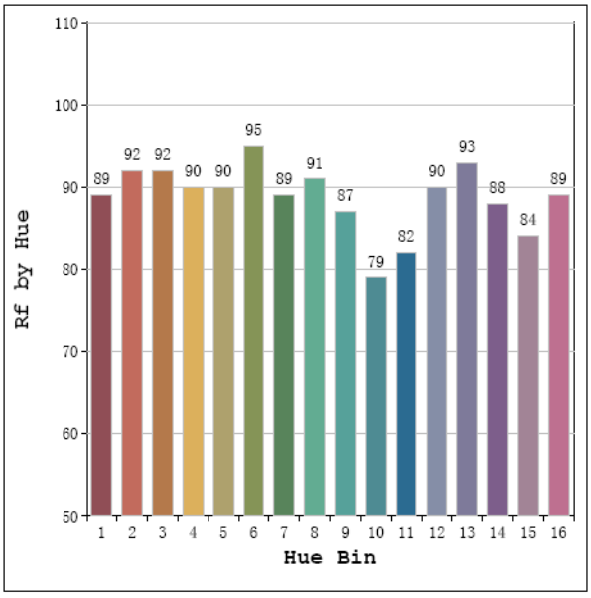
Spectral Power Distribution & Chromaticity Diagram

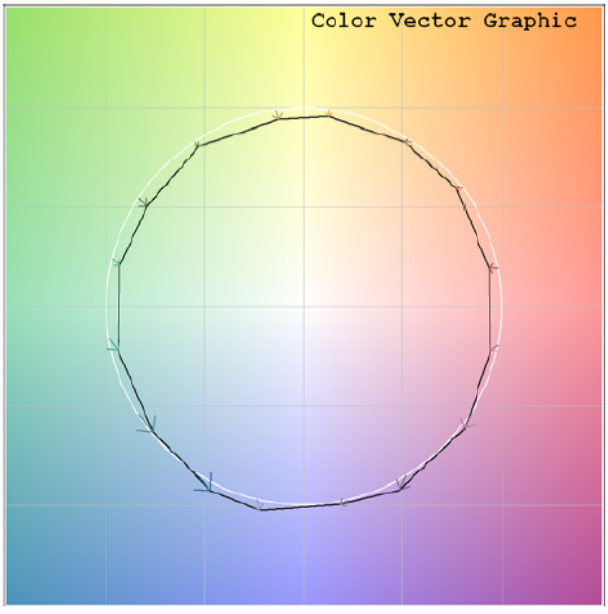


T30







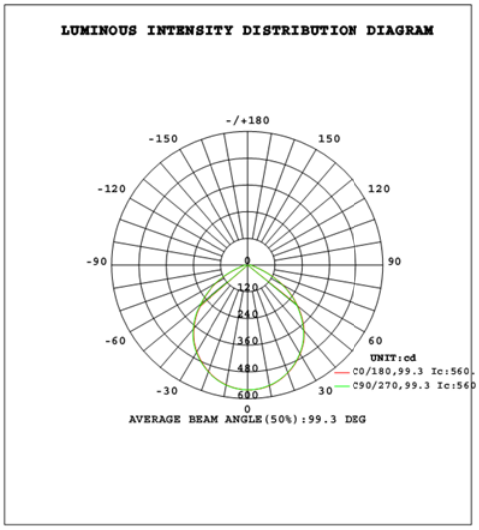


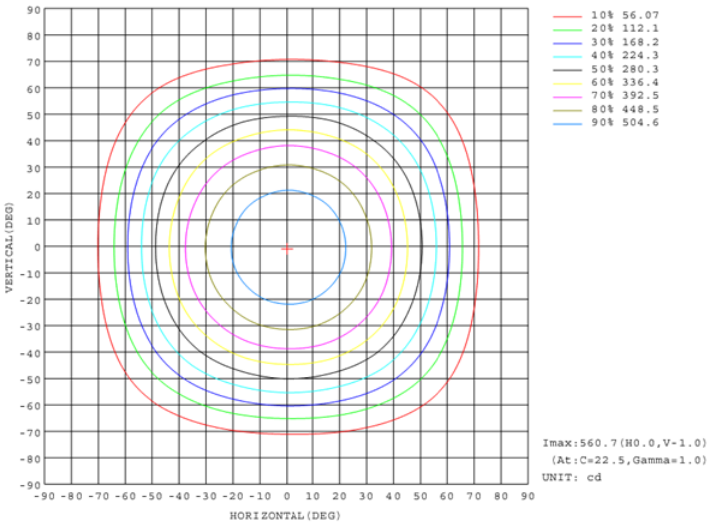
Zonal Lumen Tabulation

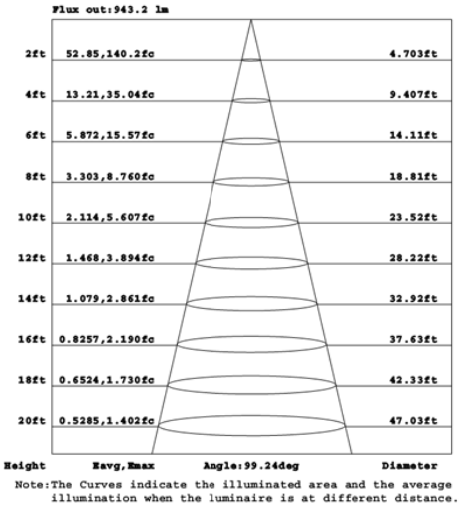
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	426.9	32.5%
0-40	689.4	52.6%
0-60	1142.8	87.1%
60-90	168.9	12.9%
70-100	57.5	4.4%
90-120	0.0	0.0%
0-90	1311.6	100.0%
90-180	0.0	0.0%
0-180	1311.6	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	52.9	4.0%	90-100	0.0	0.0%
10-20	150.2	11.5%	100-110	0.0	0.0%
20-30	223.8	17.1%	110-120	0.0	0.0%
30-40	262.5	20.0%	120-130	0.0	0.0%
40-50	253.8	19.4%	130-140	0.0	0.0%
50-60	199.5	15.2%	140-150	0.0	0.0%
60-70	111.4	8.5%	150-160	0.0	0.0%
70-80	40.1	3.1%	160-170	0.0	0.0%
80-90	17.4	1.3%	170-180	0.0	0.0%

Photometric Data







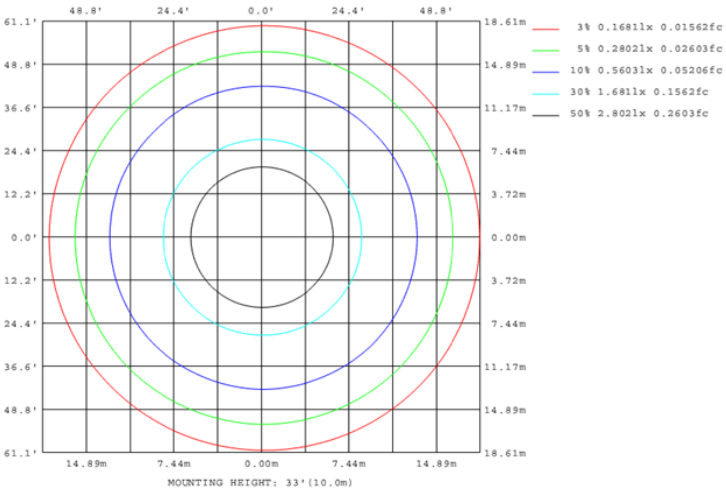
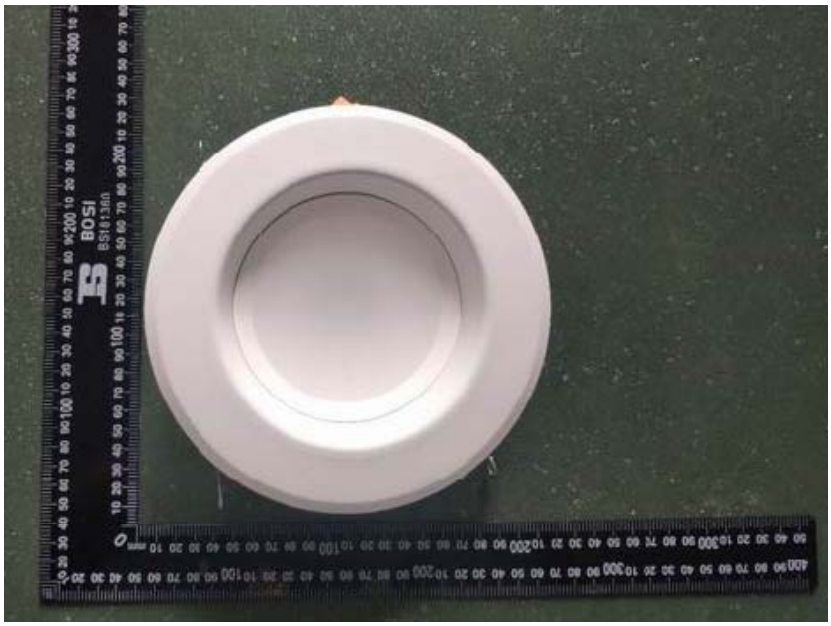


Table--1 UNIT: cd

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	561	561	561	561	561	561	561	561	561	561	561	561	561	561	561	561			
5	558	559	558	558	558	558	557	557	556	556	556	557	557	557	558	558			
10	550	551	550	550	549	548	547	547	546	546	546	546	547	548	549	549			
15	536	536	536	535	534	533	531	531	530	529	530	530	532	532	534	535			
20	515	516	516	516	513	513	510	509	508	507	508	509	510	512	513	514			
25	491	492	491	491	488	487	484	483	481	480	482	482	484	486	488	489			
30	461	462	461	461	458	457	453	452	450	449	450	451	454	455	458	459			
35	427	429	427	427	424	422	418	417	415	413	415	415	418	420	423	425			
40	385	388	386	386	381	379	375	373	371	369	371	371	375	377	381	383			
45	338	340	339	338	334	331	326	325	322	320	322	323	327	329	334	335			
50	287	285	287	283	282	276	275	269	267	268	266	271	272	278	278	284			
55	234	233	234	230	229	223	221	216	214	215	214	218	219	225	226	231			
60	178	178	179	175	173	168	165	161	159	158	159	162	164	169	172	176			
65	120	122	120	119	114	112	107	105	104	102	104	104	109	111	116	118			
70	68.8	70.5	68.7	68.2	64.6	63.1	59.5	58.4	57.3	56.0	57.4	58.0	61.0	62.7	66.4	67.7			
75	37.9	38.7	37.8	37.5	35.9	35.2	33.7	33.1	32.6	32.1	32.7	32.9	34.2	35.0	36.6	37.3			
80	25.3	25.6	25.4	25.4	24.9	24.6	23.9	23.6	23.6	23.4	23.7	23.9	24.4	24.6	25.0	25.2			
85	16.9	17.3	17.0	16.8	16.0	15.5	14.7	14.4	14.8	14.5	14.9	15.1	15.8	16.2	16.9	17.1			
90	8.06	8.07	7.99	7.87	7.82	7.80	7.77	7.75	8.56	8.56	8.55	8.55	8.56	8.58	8.62	8.74			

3. Product Photo



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