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): DLC0045(C8R82835UNVW)

Report Type:	Testing and Report According to IES LM-79-2008
Type of Luminaire:	Downlights
Report Date:	2020-09-07

Prepared By:

Test & Report By:

Engineer: Sun Fangfang

Review By:

Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120V-277Vac, 50/60 Hz
Nominal Power	82.0W
Rated Initial Lamp Lumen	8000 lm
Declared CCT	3500K

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	2020-09-07	Test Ambient:	25.3 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0045(C8R82835UNVW)	3500K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202008280015	120.0	60	0.648	77.40	0.995

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3361
Duv	0.0004
Chromaticity (x, y)	x=0.4138 y=0.3956
Chromaticity (u', v')	u'=0.2392 v'=0.5145
Color Rendering Index (CRI)	83.2
R9	8

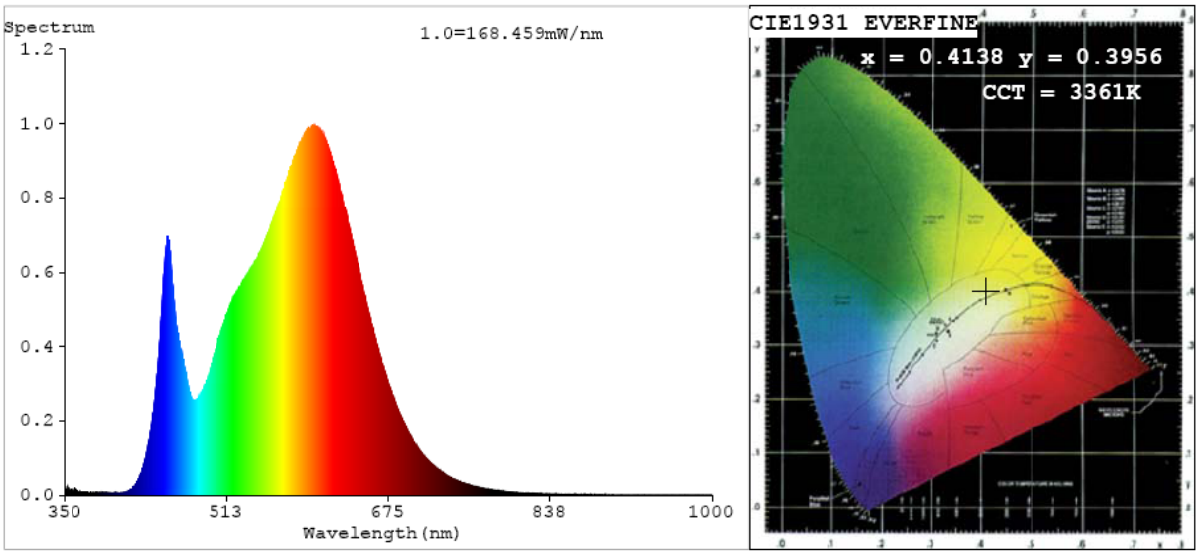
Special Color Rendering Indices			
R1	82	R9	8
R2	91	R10	80
R3	96	R11	80
R4	81	R12	68
R5	82	R13	84
R6	89	R14	99
R7	84	R15	75
R8	61	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	8732.2
Luminous Efficacy (lm/W)	112.82
Beam Angle (°)	82.8
Center Beam Candle Power (cd)	4658

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	8712.0
Luminous Efficacy (lm/W)	114.45

Spectral Power Distribution & Chromaticity Diagram



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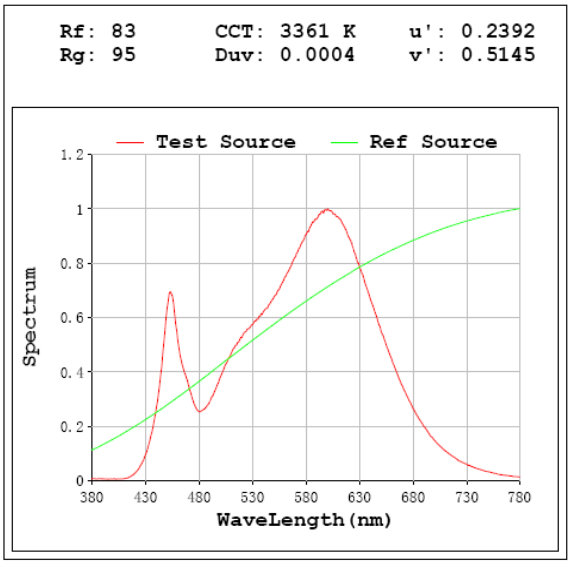
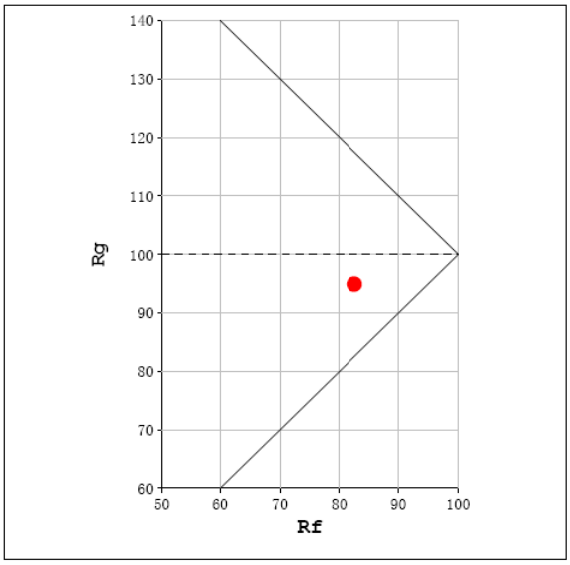
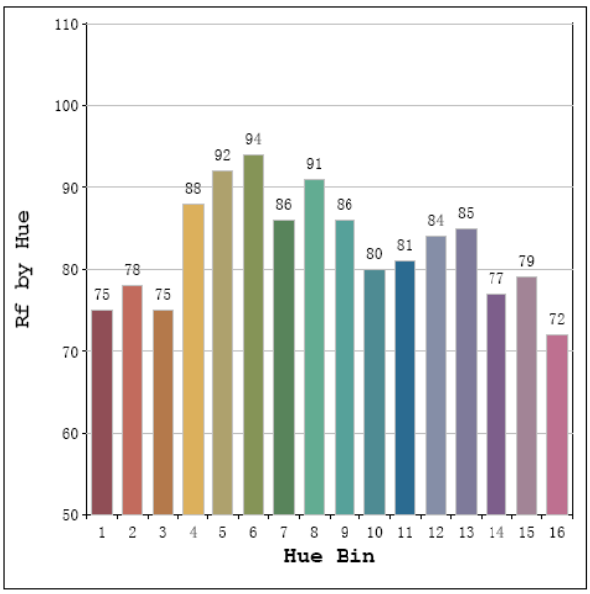
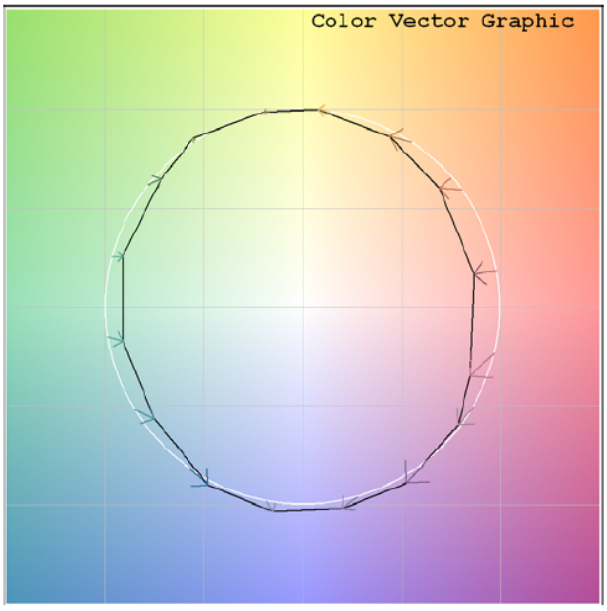






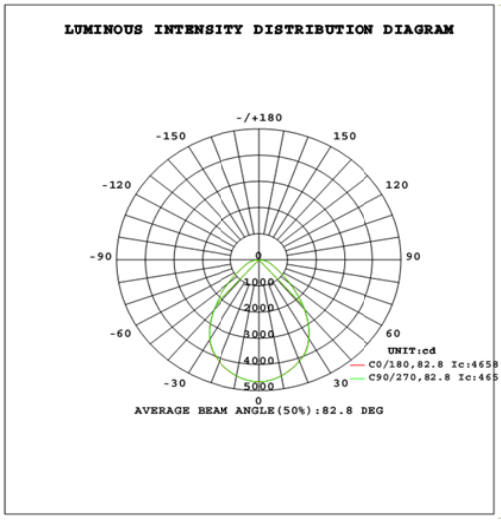


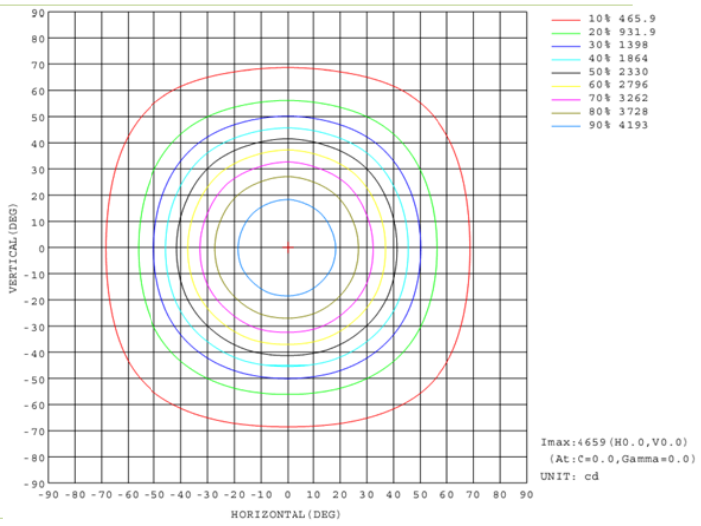
Zonal Lumen Tabulation

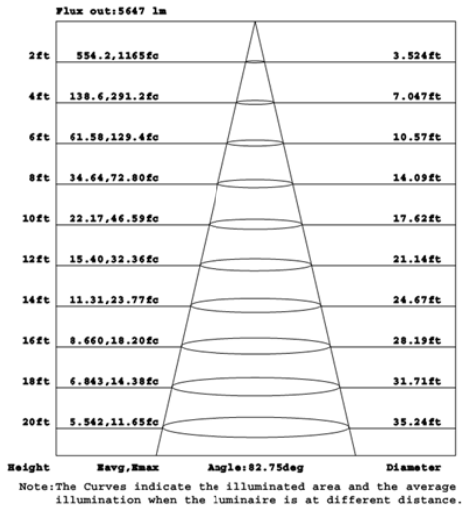
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	3428.1	39.3%
0-40	5305.3	60.8%
0-60	7705.4	88.2%
60-90	1026.8	11.8%
70-100	465.8	5.3%
90-120	0.0	0.0%
0-90	8732.2	100.0%
90-180	0.0	0.0%
0-180	8732.2	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	437.0	5.0%	90-100	0.0	0.0%
10-20	1219.8	14.0%	100-110	0.0	0.0%
20-30	1771.3	20.3%	110-120	0.0	0.0%
30-40	1877.2	21.5%	120-130	0.0	0.0%
40-50	1483.6	17.0%	130-140	0.0	0.0%
50-60	916.5	10.5%	140-150	0.0	0.0%
60-70	561.0	6.4%	150-160	0.0	0.0%
70-80	337.8	3.9%	160-170	0.0	0.0%
80-90	128.0	1.5%	170-180	0.0	0.0%

Photometric Data







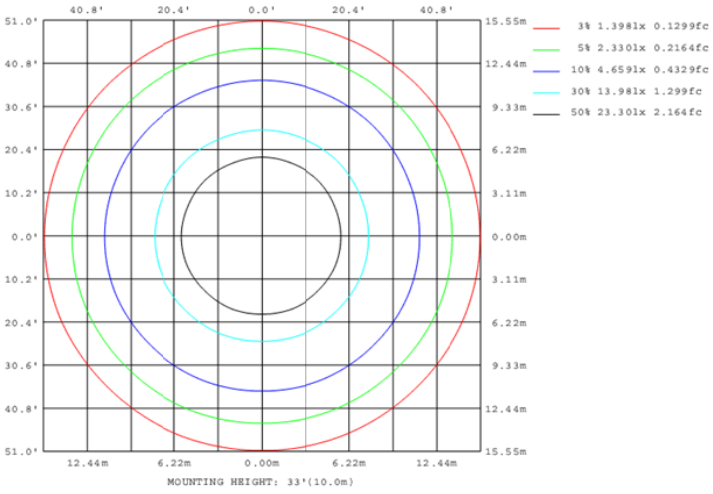
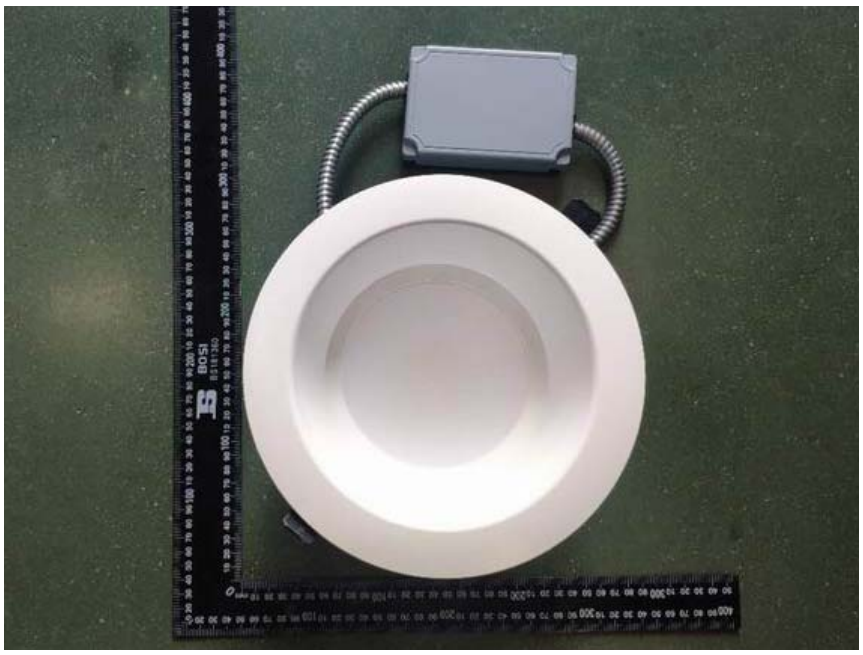


Table--1

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	4658	4658	4658	4658	4658	4658	4658	4658	4658	4658	4658	4658	4658	4658	4658	4658			
5	4615	4618	4616	4619	4617	4621	4618	4620	4617	4614	4616	4614	4616	4612	4614	4612			
10	4497	4502	4502	4506	4503	4508	4505	4512	4503	4496	4499	4497	4499	4493	4496	4492			
15	4324	4332	4328	4336	4332	4342	4338	4345	4334	4325	4328	4323	4327	4316	4321	4315			
20	4117	4122	4120	4129	4127	4137	4133	4145	4130	4123	4124	4116	4120	4107	4109	4103			
25	3857	3868	3860	3875	3871	3887	3881	3897	3884	3870	3875	3864	3867	3852	3856	3844			
30	3469	3503	3473	3510	3482	3522	3495	3534	3520	3484	3513	3478	3506	3467	3493	3455			
35	2993	3029	3000	3034	3006	3048	3021	3059	3044	3010	3037	3006	3032	2995	3019	2983			
40	2465	2496	2469	2500	2472	2509	2484	2521	2503	2471	2498	2471	2497	2462	2486	2450			
45	1911	1938	1913	1937	1913	1945	1922	1955	1934	1907	1931	1910	1934	1904	1927	1896			
50	1407	1420	1406	1415	1404	1418	1410	1426	1409	1395	1407	1399	1411	1397	1406	1391			
55	1008	1016	1005	1012	1001	1012	1005	1018	1001	993	1002	996	1005	995	1002	992			
60	743	748	741	745	738	745	740	748	736	731	737	734	739	733	738	731			
65	560	563	558	560	555	559	556	561	553	550	555	553	557	553	557	551			
70	441	444	440	442	438	441	438	442	438	436	439	438	441	438	440	437			
75	319	318	318	315	316	315	317	316	314	317	316	320	318	320	317	318			
80	207	206	206	204	204	204	205	206	206	208	207	210	209	210	208	208			
85	111	113	111	112	109	111	110	113	116	114	117	116	118	116	117	114			
90	47.8	47.7	47.8	47.7	47.8	47.8	47.8	47.8	53.6	53.6	53.6	53.7	53.7	53.7	53.7	53.6			

3. Product Photo



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