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): DLC0044(C8R82830UNVW)

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

Type of

Downlights

Luminaire: Report Date:

2020-09-07

Prepared By:

Test & Report By:

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Review By:

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1.1 Rated Values:							
Rated Voltage / Frequency	120V-277Vac, 50/60 Hz						
Nominal Power	82.0W						
Rated Initial Lamp Lumen	8000 lm						
Declared CCT	3000K						

1.2 Test Specifications:

1.2 Test Specifications.	
	1. Total Luminous Flux
	2. Luminous Distribution Intensity
	3. Luminous Efficacy
Test item	4. Correlated Color Temperature
	5. Color Rendering Index
	6. Chromaticity Coordinate
	7. Electrical Parameters
	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
Reference Standard	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° C $\pm 1^{\circ}$ 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.

2.1.1 Electrical, Photometric and Chromaticity Measurements

Test date	2020-09-07	Test Ambient:	25.3 ℃
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLC0044(C8R82830UNVW)	3000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202008280013	120.0	60	0.630	75.20	0.995

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3060
Duv	0.0002
Chromaticity (x, y)	x=0.4325 y=0.4020
Chromaticity (u', v')	u'=0.2486 v'=0.5199
Color Rendering Index (CRI)	82.9
R9	10

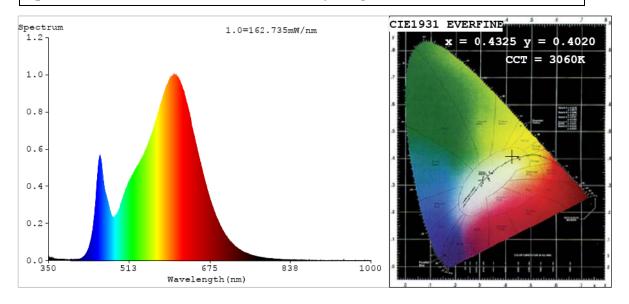
Special Color Rendering Indices										
R1	82	R9	10							
R2	92	R10	82							
R3	96	R11	79							
R4	80	R12	71							
R5	82	R13	84							
R6	90	R14	98							
R7	83	R15	74							
R8	60									

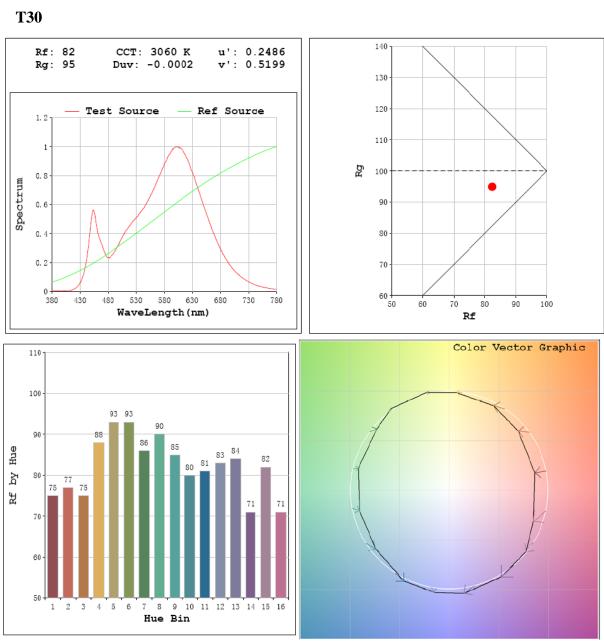
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	8040.6
Luminous Efficacy (lm/W)	106.92
Beam Angle (°)	82.5
Center Beam Candle Power (cd)	4306

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	8014.0
Luminous Efficacy (lm/W)	107.90

Spectral Power Distribution & Chromaticity Diagram



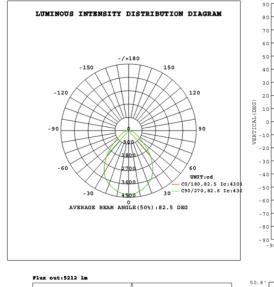


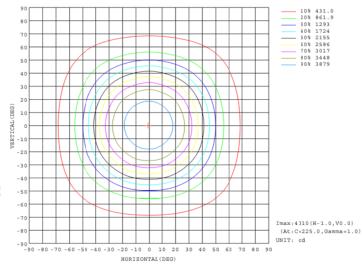
Zonal Lumen Tabulation

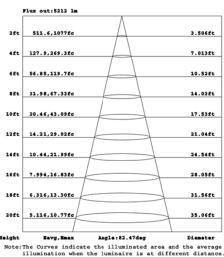
Zonal Lumen Summary										
Zone	Lumens	% Luminaire								
0-30	3168.4	39.4%								
0-40	4898.7	60.9%								
0-60	7095.4	88.2%								
60-90	945.1	11.8%								
70-100	429.3	5.3%								
90-120	0.0	0.0%								
0-90	8040.6	100.0%								
90-180	0.0	0.0%								
0-180	8040.6	100.0%								

Lumens Per Zone													
Zone	Lumens	% Total	Zone	Lumens	% Total								
0-10	403.9	5.0%	90-100	0.0	0.0%								
10-20	1127.0	14.0%	100-110	0.0	0.0%								
20-30	1637.5	20.4%	110-120	0.0	0.0%								
30-40	1730.2	21.5%	120-130	0.0	0.0%								
40-50	1360.0	16.9%	130-140	0.0									
50-60	836.8	10.4%	140-150	0.0	0.0%								
60-70	515.8	6.4%	150-160	0.0	0.0%								
70-80	70-80 311.3		160-170	0.0	0.0%								
80-90	118.0	1.5%	170-180	0.0	0.0%								

Photometric Data







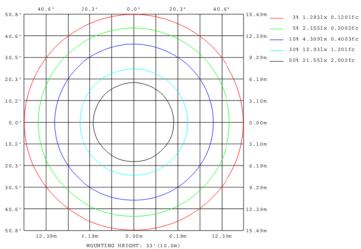
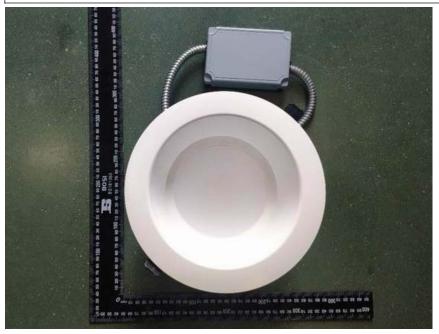


Table1																UNI	T: cd	
C (DEG)																		
Y (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5		
0	4306	4306	4306	4306	4306	4306	4306	4306	4306	4306	4306	4306	4306	4306	4306	4306		
5	4263	4263	4259	4262	4262	4266	4267	4271	4270	4271	4274	4273	4275	4268	4268	4263		
10	4151	4151	4143	4150	4151	4160	4159	4166	4168	4166	4173	4167	4171	4163	4161	4153		
15	3988	3989	3979	3988	3989	4002	4000	4013	4011	4011	4017	4011	4014	4002	4 00 0	3989		
20	3794	3795	3784	3795	3797	3810	3811	3822	3823	3821	3829	3821	3823	3809	3807	3793		
25	3554	3579	3544	3579	3557	3598	3575	3611	3610	3588	3619	3589	3613	3573	3592	3555		
30	3194	3217	3182	3220	3197	3240	3215	3252	3252	3230	3266	3234	3256	3215	3 2 3 4	3194		
35	2754	2777	2742	2779	2755	2798	2771	2808	2809	2788	2824	2793	2815	2776	2793	2757		
40	2262	2281	2249	2282	2261	2298	2273	2305	2304	2286	2321	2292	2313	2278	2296	2264		
45	1748	1765	1736	1762	1743	1773	1751	1778	1776	1759	1789	1765	1784	1754	1773	1744		
50	1280	1286	1270	1282	1274	1289	1280	1293	1289	1282	1298	1287	1296	1280	1288	1274		
55	915	921	909	918	912	922	914	924	917	912	922	915	922	911	917	908		
60	678	682	674	680	676	683	678	683	676	673	680	674	679	672	677	671		
65	513	515	511	514	511	515	512	515	511	507	513	509	513	508	512	508		
70	406	408	404	407	404	408	404	407	404	402	405	404	406	403	406	404		
75	293	292	292	291	292	291	292	291	291	294	293	295	293	294	293	295		
80	190	189	189	188	189	189	189	188	191	193	192	194	192	193	192	193		
85	102	103	101	103	101	103	101	103	108	107	109	107	109	107	108	107		
90	43.9	43.8	43.8	43.8	43.9	43.9	43.9	43.9	49.4	49.3	49.3	49.3	49.4	49.4	49.4	49.3		

3. Product Photo





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