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): DLR0111(R6R8950120WS)

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

Type of

Downlights

Luminaire:

Report Date:

2020-09-16

Prepared By:

Test & Report By:

Review By:

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Manager: Huang Qichong

1.1 Rated Values:						
Rated Voltage / Frequency	120Vac, 60 Hz					
Nominal Power	8.0W					
Rated Initial Lamp Lumen	725 lm					
Declared CCT	5000K					

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	QD	25

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 $\pm 1^{\circ}\text{C}$, 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	2020-09-16	Test Ambient:	25.3 ℃
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLR0111(R6R8950120WS)	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202009150020	120.0	60	0.066	7.77	0.975

Chromaticity Measurement - Sphere-Spectroradiometer Method:

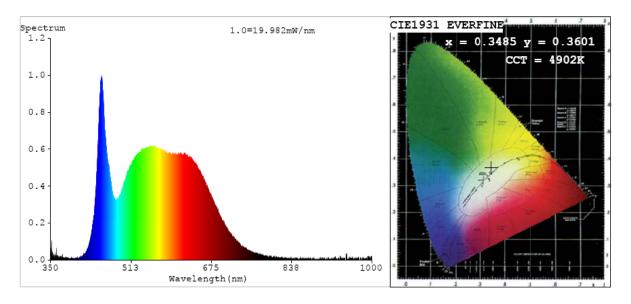
Chi dinancity Measurement - Sphere-Speed of						
Parameter	Result					
Test Voltage (V)	120					
Frequency (Hz)	60					
CCT (K)	4902					
Duv	0.0029					
Chromaticity (x, y)	x=0.3485y=0.3601					
Chromaticity (u', v')	u'=0.2105 v'=0.4893					
Color Rendering Index (CRI)	92.0					
R9	70					

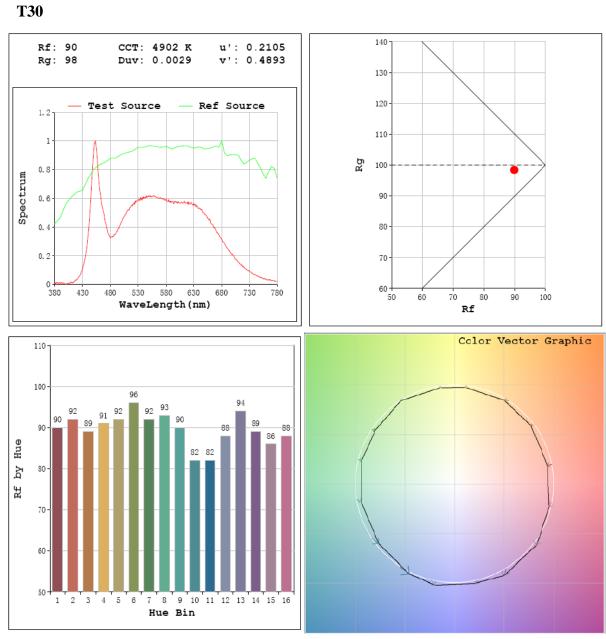
Special Color Rendering Indices								
R1	92	R9	70					
R2	94	R10	85					
R3	94	R11	90					
R4	91	R12	64					
R5	90	R13	93					
R6	90	R14	97					
R7	96	R15	90					
R8	89							

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	820.23
Luminous Efficacy (lm/W)	105.56
Beam Angle (°)	99.4
Center Beam Candle Power (cd)	351.8

Spectral Power Distribution & Chromaticity Diagram



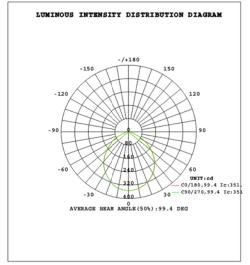


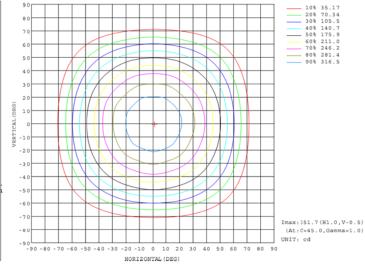
Zonal Lumen Tabulation

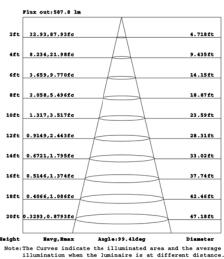
Zonal Lumen Summary								
Zone	Lumens % Luminaire							
0-30	266.4	32.5%						
0-40	429.5	52.4%						
0-60	713.1	86.9%						
60-90	107.2	13.1%						
70-100	35.9	4.4%						
90-120	0.0	0.0%						
0-90	820.2	100.0%						
90-180	0.0	0.0%						
0-180	820.2	100.0%						

Lumens Per Zone											
Zone	Lumens	% Total	Zone	Lumens	% Total						
0-10	33.2	4.0%	90-100	0.0	0.0%						
10-20	94.1	11.5%	100-110	0.0	0.0%						
20-30	139.1	17.0%	110-120	0.0	0.0%						
30-40	163.1	19.9%	120-130	0.0	0.0%						
40-50	158.3	19.3%	130-140	0.0	0.0%						
50-60	125.2	15.3%	140-150	0.0	0.0%						
60-70	71.3	8.7%	150-160	0.0	0.0%						
70-80	25.2	3.1%	160-170	0.0	0.0%						
80-90	10.7	1.3%	170-180	0.0	0.0%						

Photometric Data







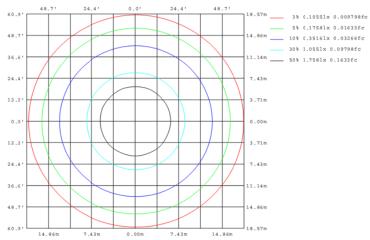


Table1																UNI	T: cd	
C (DEG)																		
Y (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5		
0	352	3 5 2	352	352	352	352	352	352	352	352	352	352	3 5 2	352	352	352		
5	350	350	350	350	350	350	349	349	349	349	349	349	350	350	350	350		
10	344	3 4 5	344	344	344	344	343	343	343	343	343	343	344	344	344	344		
15	335	3 3 5	335	334	334	334	333	333	333	333	333	333	334	334	335	334		
20	322	3 2 2	321	322	320	318	320	318	317	319	317	320	318	321	322	321		
25	306	3 0 2	305	301	304	300	3 0 3	299	299	302	299	3 0 3	300	304	301	305		
30	287	283	286	282	285	281	284	280	279	283	280	284	281	285	282	286		
35	265	262	264	260	263	259	262	259	258	261	258	262	259	263	261	265		
4 0	240	237	239	235	237	233	235	232	231	234	232	235	234	237	235	239		
4.5	210	207	209	206	207	204	205	203	202	204	202	206	204	207	206	209		
50	178	176	177	174	175	172	173	171	170	171	171	174	173	176	175	177		
5.5	143	144	142	142	140	140	138	138	137	137	138	139	141	141	143	142		
60	110	110	108	108	106	106	104	104	103	103	105	105	107	107	109	109		
65	74.7	75.1	73.3	72.9	70.8	70.7	69.0	69.1	68.6	68.2	70.1	70.4	72.7	72.7	74.4	74.1		
70	42.6	42.9	41.5	41.3	39.6	39.6	38.3	38.4	38.1	37.9	39.2	39.6	41.1	41.3	42.6	42.4		
75	23.1	23.2	22.5	22.4	21.7	21.7	21.1	21.1	21.0	20.9	21.5	21.6	22.3	22.4	23.0	22.9		
80	15.3	15.3	15.1	15.0	14.8	14.8	14.6	14.7	14.7	14.7	14.9	14.9	15.1	15.1	15.3	15.3		
8.5	10.2	10.2	9.88	9.77	9.42	9.38	9.12	9.14	9.49	9.49	9.72	9.82	10.2	10.3	10.5	10.5		
9 0	4.95	4.93	4.91	4.90	4.90	4.87	4.86	4.86	5.37	5.38	5.39	5.38	5.38	5.40	5.40	5.42		

3. Product Photo



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