

LM-79-08 Test Report

For

RAB LIGHTING INC

(Brand Name : RAB)

170 Ludlow Ave , PO BOX 970, Northvale, NJ 07647-2305 USA

Model name (s) :

DLR0140(R3S-15B)

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

Type of Luminaire: Downlights

Report Date: 2023-6-17

1.1 Rated Values:	
Rated Voltage / Frequency	120V, 60HZ
Nominal Power	15W
Rated Initial Lamp Lumen	950lm (2700k) , 1000lm (3000k)
Declared CCT	2700k/3000k/3500k/4000k/5000k

1.2 Test Specifications:

Test item	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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

<p>1) Photometric and Light Distribution Measurement – Goniophotometer Method:</p> <p>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.</p>
<p>2) Chromaticity Measurement – Sphere-Spectroradiometer Method:</p> <p>Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25°C ±1°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.</p>
<p>3) Electrical Measurements:</p> <p>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±1°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.</p>

2.1.1 Electrical, Photometric and Chromaticity Measurements

Test date	2023-6-17	Test Ambient:	25.3
Test Orientation	As intended	Stabilization Time (min)	15
Model Number	DLR0140 (R3S-15B)	CCT Setting	2700k

Electrical Measurement:

Sampel No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
#1	120	60	0.1199	14.19	0.9826

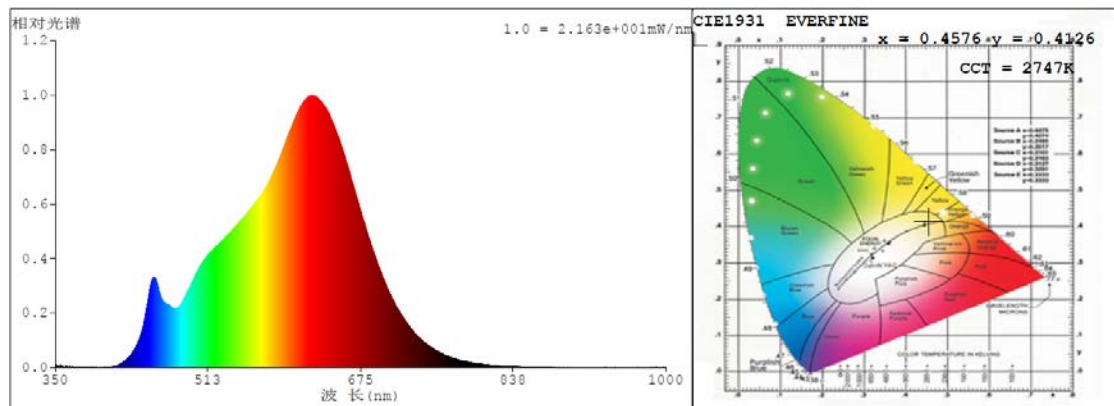
Chromaticity Measurement – Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	97	R9	68
Frequency (Hz)	60	R2	99	R10	98
CCT (K)	2747	R3	99	R11	99
Duv	0.000920	R4	97	R12	89
Chromaticity (x, y)	x=0.4576, y=0.4126	R5	97	R13	98
Chromaticity (u', v')	u' =0.2602, v' =0.5278	R6	97	R14	99
Color Rendering Index (CRI)	95.5	R7	93	R15	92
R9	68	R8	85	--	--

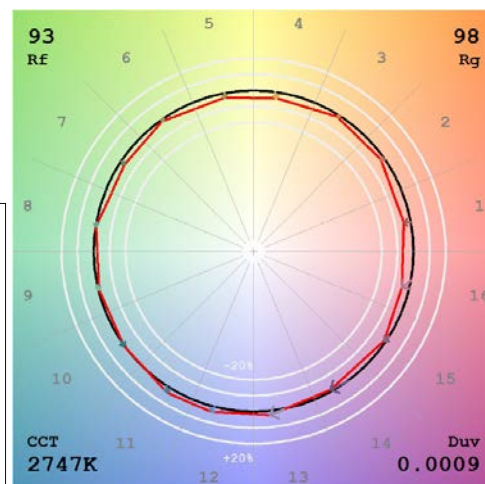
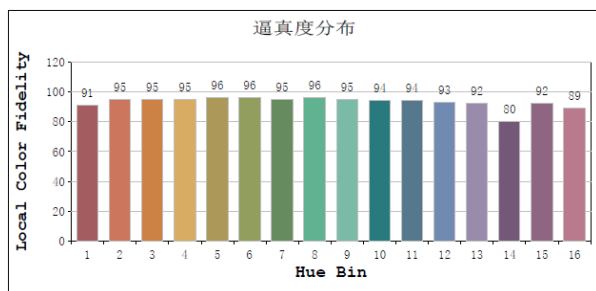
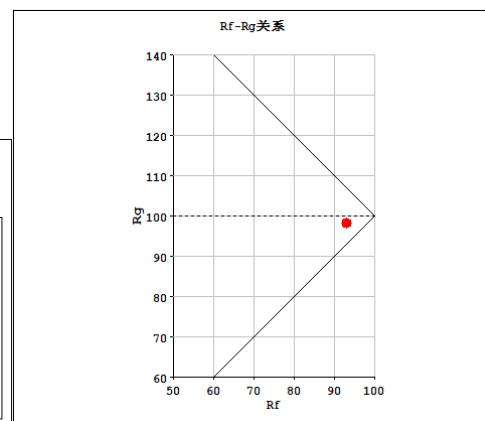
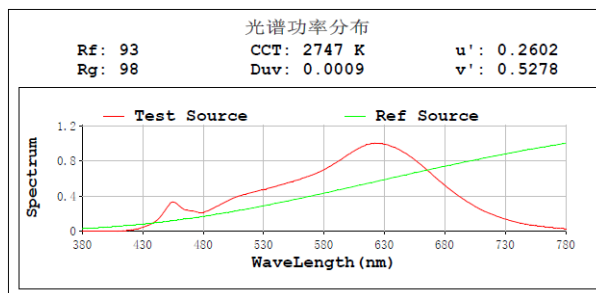
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	973.57
Luminous Efficacy (lm/W)	68.71
Beam Angle (°)	38.5
Center Beam Candle Power (cd)	1985

Spectral Power Distribution & Chromaticity Diagram



TM30

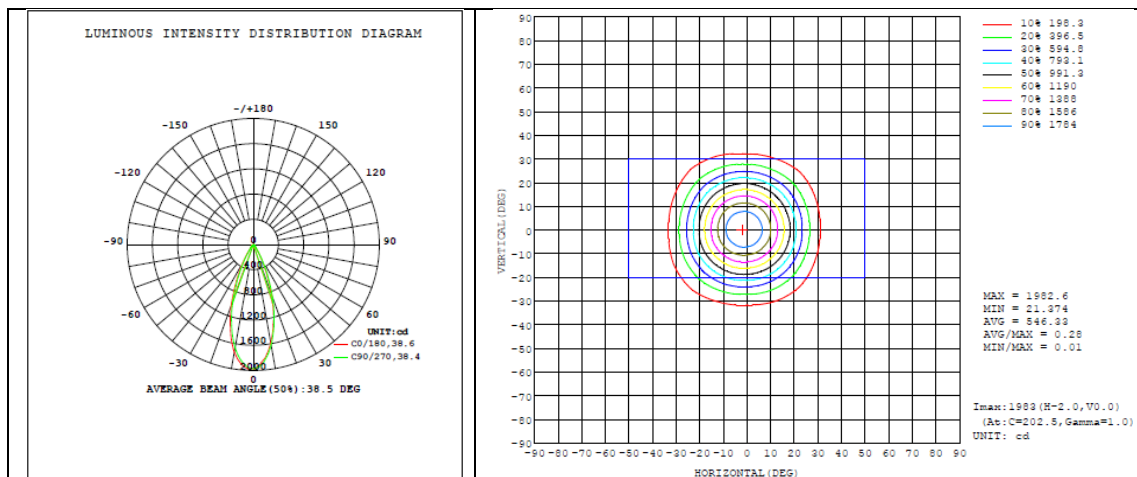


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	792.5	81.4%
0-40	887.9	91.2%
0-60	949.2	97.5%
60-90	24.3	2.3%
70-100	10.7	1.1%
90-120	0.0	0.0%
0-90	973.6	100.0%
90-180	0.0	0.0%
0-180	973.6	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	172.3	17.7%	90-100	0	0%
10-20	360.2	37.0%	100-110	0	0%
20-30	259.9	26.7%	110-120	0	0%
30-40	95.4	9.8%	120-130	0	0%
40-50	39.9	4.1%	130-140	0	0%
50-60	21.4	2.2%	140-150	0	0%
60-70	13.6	1.4%	150-160	0	0%
70-80	8.8	0.9%	160-170	0	0%
80-90	1.9	0.2%	170-180	0	0%

Photometric Data



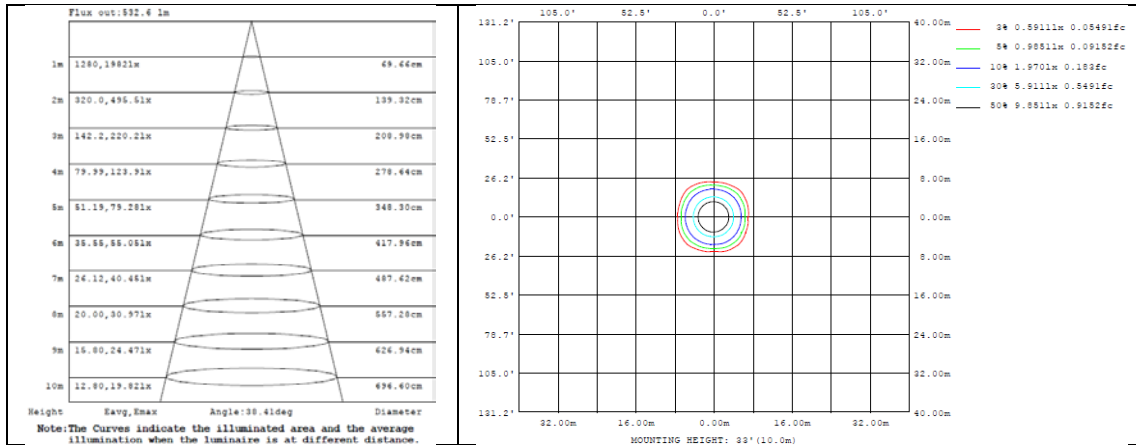


Table--1

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	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971			
5	1839	1849	1841	1862	1877	1901	1914	1929	1930	1929	1917	1906	1889	1874	1860	1847			
10	1586	1587	1582	1607	1619	1665	1691	1723	1739	1742	1717	1696	1664	1637	1611	1595			
15	1240	1235	1231	1255	1274	1320	1361	1399	1412	1414	1401	1370	1335	1303	1278	1248			
20	849	849	855	875	892	937	976	1014	1024	1023	1015	988	954	915	890	860			
25	482	497	512	524	527	571	608	635	637	638	640	609	570	546	536	505			
30	233	243	272	272	266	294	332	342	339	340	354	320	286	276	285	251			
35	99.6	112	142	134	112	133	173	173	148	164	186	156	118	129	150	127			
40	58.8	64.8	85.6	74.7	62.4	71.9	102	92.2	71.5	80.8	106	81.6	62.7	67.3	87.6	70.7			
45	40.8	44.9	54.2	49.2	42.9	49.0	61.4	54.5	45.7	50.1	62.4	50.8	41.7	45.0	53.9	47.4			
50	28.4	31.9	36.9	34.9	30.5	34.3	40.8	37.1	32.1	34.7	40.2	35.4	29.7	31.9	36.1	33.0			
55	20.0	22.5	25.2	24.9	21.6	24.6	27.9	26.8	23.0	25.1	27.5	25.3	20.8	22.7	24.7	23.2			
60	15.6	16.6	17.3	17.5	16.3	17.7	19.1	18.7	16.6	17.6	18.9	17.6	15.9	16.7	16.9	16.7			
65	13.2	13.9	13.0	14.0	14.0	14.6	13.8	14.4	14.3	14.5	13.6	14.0	13.6	14.0	12.8	13.5			
70	10.2	10.6	10.3	11.0	10.9	11.4	10.9	11.5	11.0	11.3	10.7	11.0	10.6	10.6	10.1	10.3			
75	7.14	7.34	7.31	7.83	7.63	8.23	7.96	8.21	8.06	8.21	7.74	7.86	7.29	7.39	7.12	7.25			
80	4.20	4.51	4.42	4.79	4.94	5.16	5.06	5.23	5.18	5.12	4.87	4.85	4.63	4.54	4.26	4.35			
85	1.61	1.76	1.74	1.92	2.08	2.25	2.35	2.48	2.30	2.30	2.20	2.03	1.98	1.83	1.61	1.62			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

2.1.2 Electrical, Photometric and Chromaticity Measurements

Test date	2023-6-17	Test Ambient:	25.3
Test Orientation	As intended	Stabilization Time (min)	15
Model Number	DLR0140 (R3S-15B)	CCT Setting	3000k

Electrical Measurement:

Sampel No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
#1	120	60	0.1176	13.91	0.9820

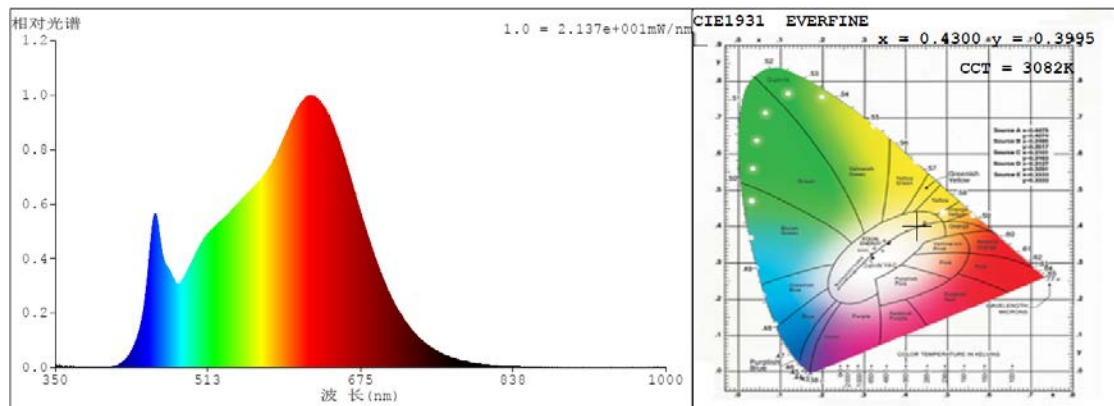
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	76
Frequency (Hz)	60	R2	99	R10	99
CCT (K)	3082	R3	98	R11	99
Duv	-0.000867	R4	96	R12	84
Chromaticity (x, y)	x=0.4300, y=0.3995	R5	97	R13	100
Chromaticity (u', v')	u' =0.2481, v' =0.5185	R6	96	R14	99
Color Rendering Index (CRI)	95.7	R7	93	R15	95
R9	76	R8	88	--	--

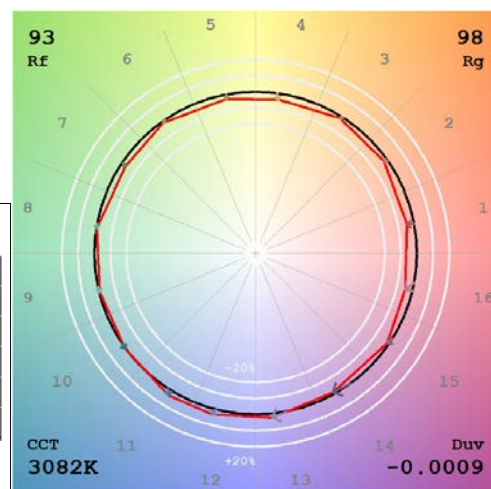
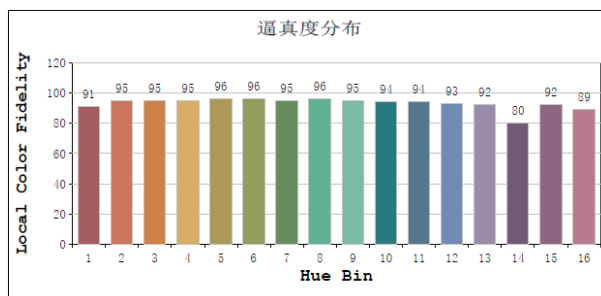
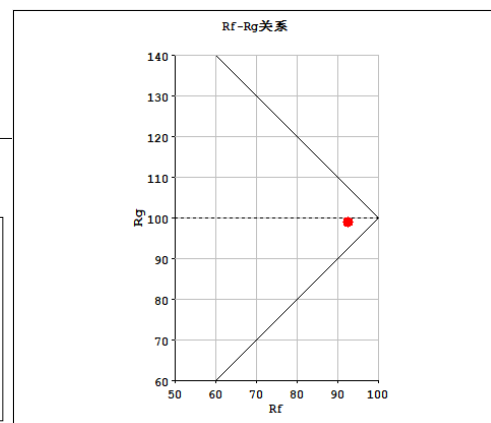
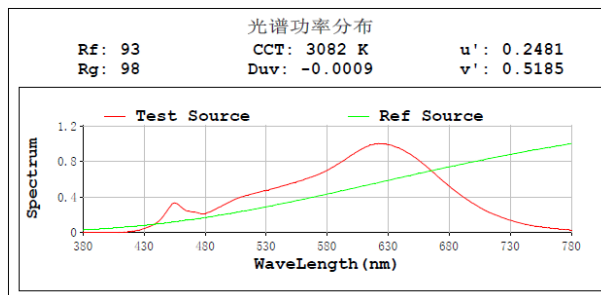
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1055.5
Luminous Efficacy (lm/W)	75.88
Beam Angle (°)	38.6
Center Beam Candle Power (cd)	2144

Spectral Power Distribution & Chromaticity Diagram



TM30

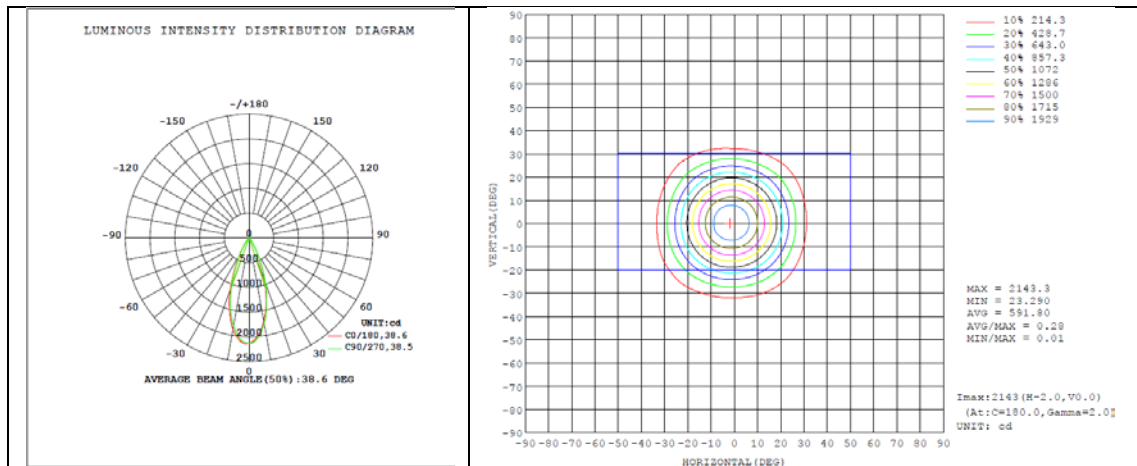


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	858.1	81.3%
0-40	962.6	91.2%
0-60	1029.1	97.5%
60-90	26.4	2.3%
70-100	11.6	1.1%
90-120	0.0	0.0%
0-90	1055.5	100.0%
90-180	0.0	0.0%
0-180	1055.5	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	186.8	17.7%	90-100	0	0%
10-20	389.5	36.9%	100-110	0	0%
20-30	281.8	26.7%	110-120	0	0%
30-40	104.5	9.9%	120-130	0	0%
40-50	43.3	4.1%	130-140	0	0%
50-60	23.2	2.2%	140-150	0	0%
60-70	14.8	1.4%	150-160	0	0%
70-80	9.5	0.9%	160-170	0	0%
80-90	2.1	0.2%	170-180	0	0%

Photometric Data



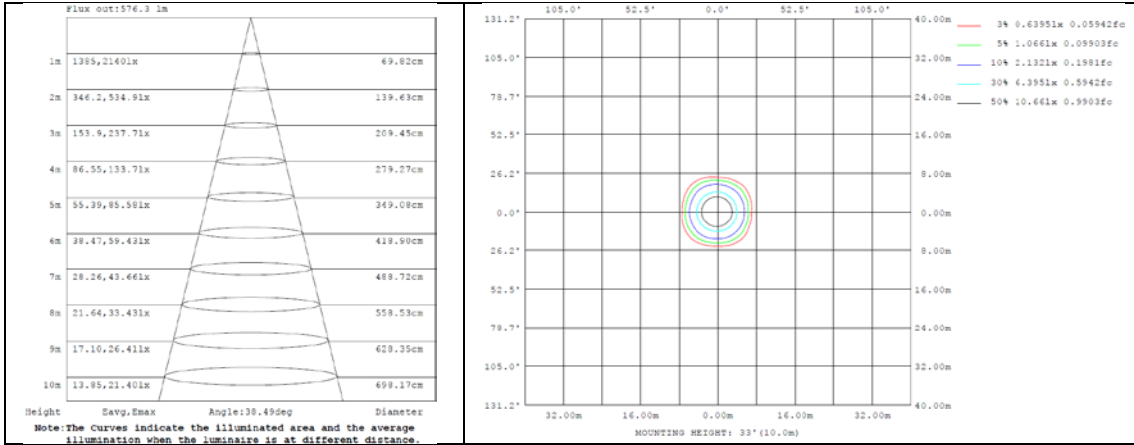


Table--1

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	2133	2133	2133	2133	2133	2133	2133	2133	2133	2133	2133	2133	2133	2133	2133	2133				
5	1988	1991	2000	2019	2031	2058	2073	2082	2095	2085	2077	2062	2046	2018	2014	1993				
10	1710	1712	1716	1736	1762	1799	1824	1863	1875	1872	1867	1828	1806	1762	1743	1720				
15	1341	1335	1335	1354	1388	1429	1475	1514	1527	1531	1512	1479	1449	1404	1382	1346				
20	919	923	927	949	971	1017	1062	1097	1110	1109	1099	1067	1040	989	960	929				
25	521	537	557	568	576	620	661	687	692	691	696	658	622	591	580	547				
30	251	268	297	296	293	321	363	371	366	370	384	347	313	300	308	272				
35	108	121	155	146	127	146	190	188	160	178	202	170	130	140	163	136				
40	63.8	70.3	93.2	81.4	68.2	78.6	111	99.9	77.8	87.9	115	88.7	68.6	73.1	94.9	76.6				
45	44.3	48.9	59.1	53.4	46.9	53.2	66.9	59.1	49.7	54.5	67.7	55.2	45.7	49.0	58.6	51.4				
50	30.9	34.6	40.1	37.9	33.4	37.3	44.4	40.3	34.9	37.7	43.8	38.4	32.4	34.6	39.2	35.9				
55	21.7	24.4	27.4	27.0	23.7	26.7	30.4	29.1	25.0	27.3	29.9	27.5	22.8	24.6	26.8	25.2				
60	16.9	18.1	18.8	19.0	17.7	19.3	20.8	20.3	18.0	19.0	20.5	19.1	17.3	18.1	18.4	18.2				
65	14.4	15.1	14.2	15.2	15.3	15.8	15.0	15.7	15.5	15.7	14.8	15.3	14.9	15.2	14.0	14.6				
70	11.1	11.5	11.2	11.9	11.9	12.4	11.8	12.5	12.0	12.3	11.6	12.0	11.6	11.6	11.0	11.2				
75	7.76	7.96	7.98	8.51	8.33	8.94	8.68	8.92	8.74	8.92	8.47	8.57	7.98	8.03	7.77	7.89				
80	4.57	4.90	4.83	5.18	5.41	5.61	5.51	5.69	5.65	5.57	5.32	5.27	5.07	4.95	4.64	4.76				
85	1.76	1.91	1.91	2.09	2.28	2.45	2.57	2.71	2.52	2.52	2.41	2.23	2.17	2.00	1.76	1.78				
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2023-6-17	Test Ambient:	25.3
Test Orientation	As intended	Stabilization Time (min)	15
Model Number	DLR0140 (R3S-15B)	CCT Setting	3500k

Electrical Measurement:

Sampel No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
#1	120	60	0.1145	13.54	0.9812

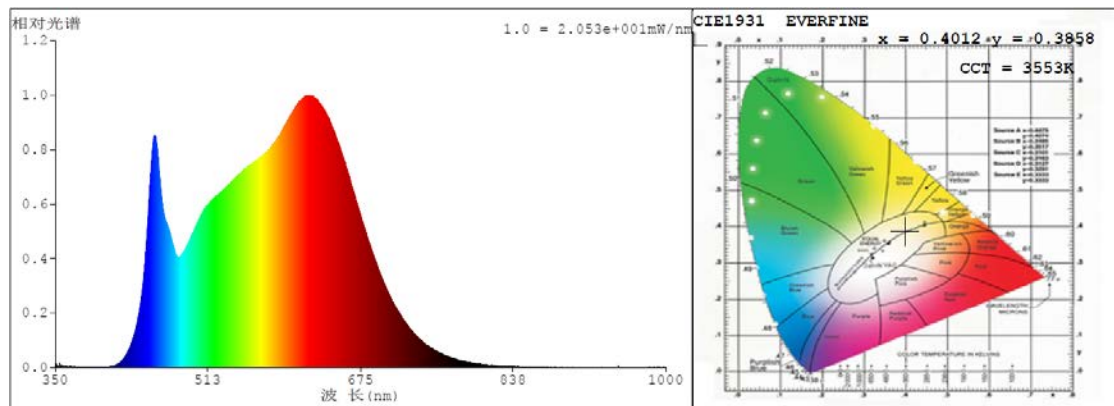
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	80
Frequency (Hz)	60	R2	99	R10	99
CCT (K)	3553	R3	98	R11	98
Duv	-0.00123	R4	96	R12	79
Chromaticity (x, y)	x=0.4012, y=0.3858	R5	97	R13	100
Chromaticity (u', v')	u' =0.2350, v' =0.5086	R6	96	R14	100
Color Rendering Index (CRI)	95.8	R7	93	R15	96
R9	80	R8	90	--	--

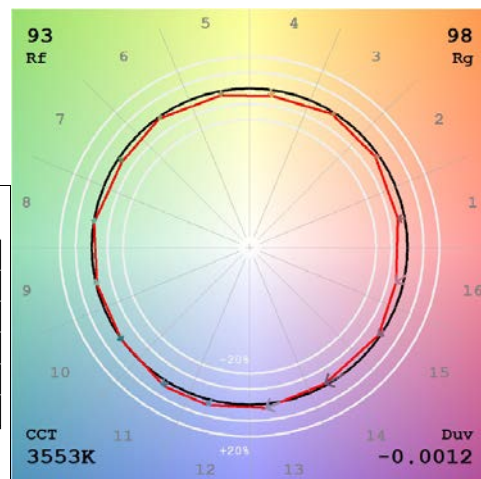
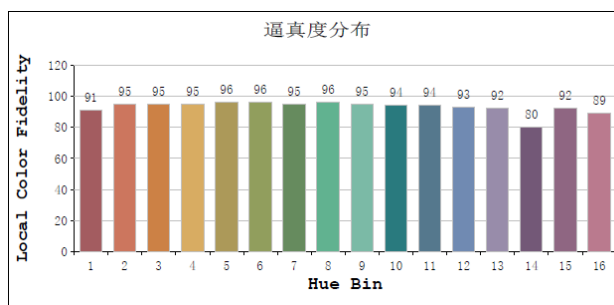
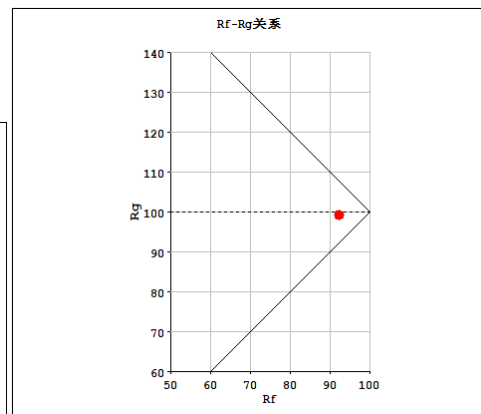
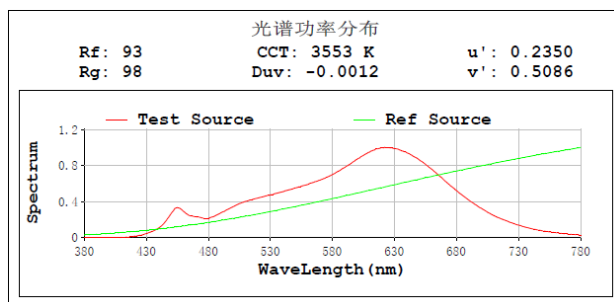
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1135.1
Luminous Efficacy (lm/W)	83.79
Beam Angle (°)	38.5
Center Beam Candle Power (cd)	2308

Spectral Power Distribution & Chromaticity Diagram



TM30

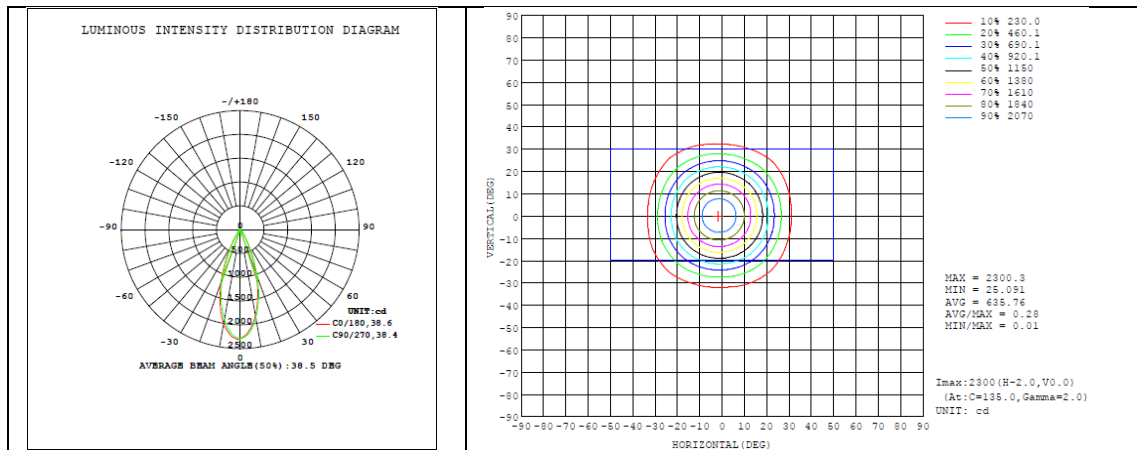


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	921.7	81.2%
0-40	1034.1	91.1%
0-60	1106.7	97.5%
60-90	28.4	2.3%
70-100	12.5	1.1%
90-120	0.0	0.0%
0-90	1135.1	100.0%
90-180	0.0	0.0%
0-180	1135.1	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	199.8	17.6%	90-100	0	0%
10-20	418.9	36.9%	100-110	0	0%
20-30	303.1	26.7%	110-120	0	0%
30-40	112.4	9.9%	120-130	0	0%
40-50	46.5	4.1%	130-140	0	0%
50-60	26.1	2.3%	140-150	0	0%
60-70	15.9	1.4%	150-160	0	0%
70-80	10.2	0.9%	160-170	0	0%
80-90	2.3	0.2%	170-180	0	0%

Photometric Data



2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2023-6-17	Test Ambient:	25.3
Test Orientation	As intended	Stabilization Time (min)	15
Model Number	DLR0140 (R3S-15B)	CCT Setting	4000k

Electrical Measurement:

Sampel No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
#1	120	60	0.1154	13.65	0.9815

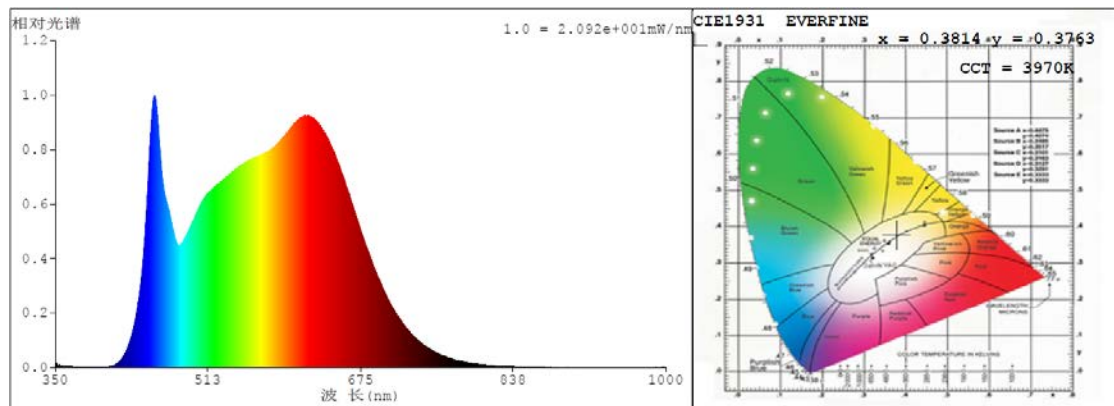
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	80
Frequency (Hz)	60	R2	99	R10	99
CCT (K)	3970	R3	99	R11	96
Duv	-0.000523	R4	94	R12	76
Chromaticity (x, y)	x=0.3814, y=0.3763	R5	96	R13	99
Chromaticity (u', v')	u' =0.2260, v' =0.5015	R6	96	R14	100
Color Rendering Index (CRI)	95.7	R7	94	R15	95
R9	80	R8	90	--	--

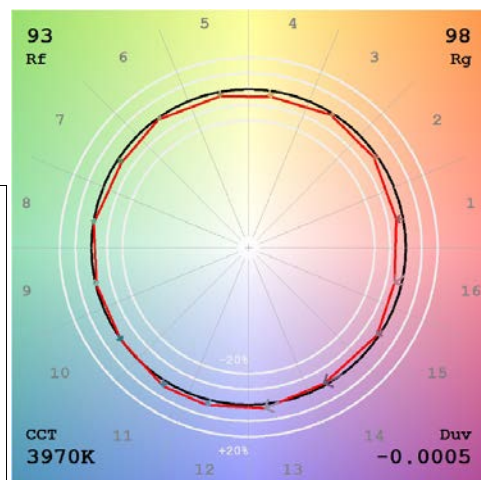
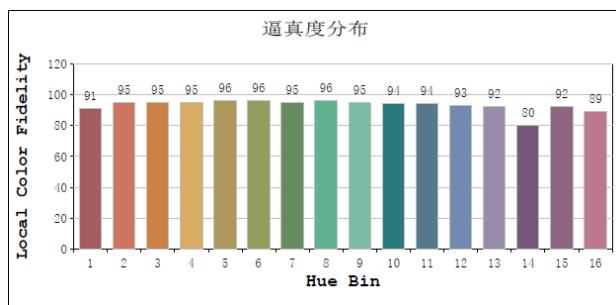
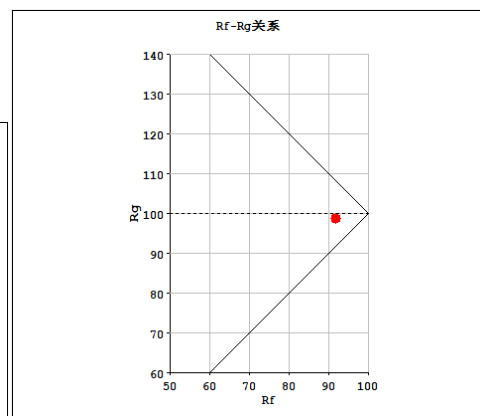
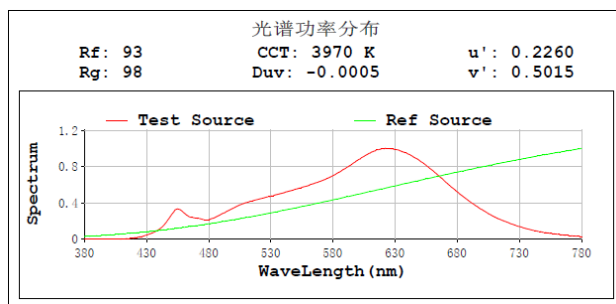
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1169.5
Luminous Efficacy (lm/W)	85.60
Beam Angle (°)	38.6
Center Beam Candle Power (cd)	2366

Spectral Power Distribution & Chromaticity Diagram



TM30

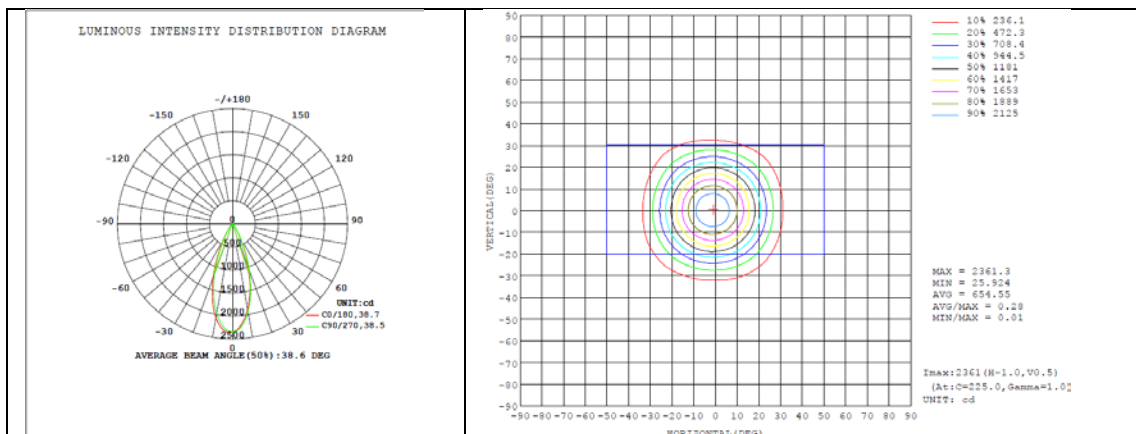


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	949.6	81.2%
0-40	1065.4	91.1%
0-60	1140.3	97.5%
60-90	29.2	2.3%
70-100	12.9	1.1%
90-120	0.0	0.0%
0-90	1169.5	100.0%
90-180	0.0	0.0%
0-180	1169.5	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	205.8	17.6%	90-100	0	0%
10-20	430.4	36.8%	100-110	0	0%
20-30	313.4	26.8%	110-120	0	0%
30-40	115.8	9.9%	120-130	0	0%
40-50	47.9	4.1%	130-140	0	0%
50-60	26.9	2.3%	140-150	0	0%
60-70	16.4	1.4%	150-160	0	0%
70-80	10.5	0.9%	160-170	0	0%
80-90	2.3	0.2%	170-180	0	0%

Photometric Data



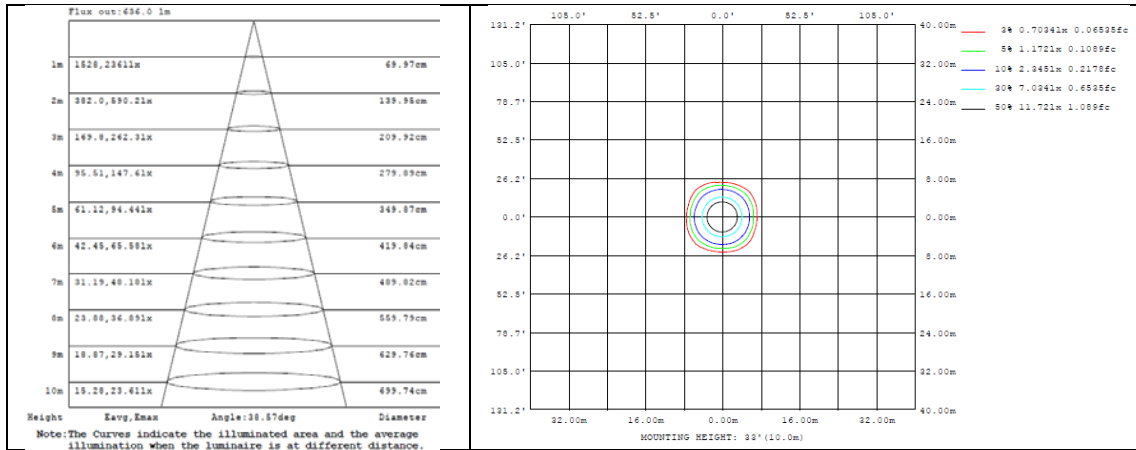


Table--1

UNIT: cd

y (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	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350
5	2200	2201	2215	2230	2237	2271	2290	2303	2310	2293	2294	2270	2251	2227	2214	2202
10	1887	1889	1901	1917	1937	1984	2027	2062	2068	2060	2054	2010	1975	1946	1926	1897
15	1475	1471	1478	1504	1530	1589	1632	1672	1687	1678	1673	1630	1591	1551	1519	1485
20	1014	1016	1033	1054	1081	1132	1178	1220	1228	1222	1216	1180	1140	1092	1061	1027
25	580	597	622	634	645	693	739	766	765	764	773	732	686	657	645	609
30	280	297	331	332	329	361	408	416	410	410	429	387	349	334	344	303
35	123	135	174	164	141	165	212	210	178	197	224	189	145	156	182	152
40	71.2	78.4	104	91.3	76.0	88.3	126	111	86.6	97.3	128	99.1	76.4	81.8	106	85.4
45	49.4	54.4	65.9	59.4	52.0	59.5	74.7	66.1	55.4	60.5	75.5	61.5	50.8	54.6	65.3	57.4
50	34.5	38.5	44.9	42.3	36.9	41.6	49.5	45.1	38.9	41.8	48.9	42.9	36.0	38.6	43.7	40.0
55	24.2	27.2	30.6	30.1	26.2	29.8	33.8	32.6	27.9	30.3	33.3	30.6	25.2	27.5	29.9	28.1
60	18.9	20.1	21.0	21.2	19.7	21.5	23.2	22.6	20.1	21.2	22.9	21.3	19.3	20.2	20.6	20.3
65	16.0	16.8	15.8	17.0	16.9	17.6	16.8	17.5	17.3	17.5	16.6	17.0	16.5	17.0	15.6	16.4
70	12.4	12.8	12.5	13.3	13.2	13.8	13.2	14.0	13.4	13.7	13.0	13.4	12.9	12.9	12.3	12.5
75	8.65	8.90	8.90	9.51	9.27	10.0	9.68	9.99	9.75	9.91	9.47	9.56	8.89	9.00	8.69	8.84
80	5.12	5.46	5.40	5.81	5.99	6.28	6.17	6.36	6.29	6.19	5.96	5.89	5.65	5.57	5.20	5.33
85	1.98	2.15	2.14	2.34	2.55	2.75	2.86	3.03	2.82	2.81	2.72	2.49	2.45	2.26	1.98	2.01
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.07	0.00	0.00	0.00	0.15	0.00	0.00	0.00

2.1.5 Electrical, Photometric and Chromaticity Measurements

Test date	2023-6-17	Test Ambient:	25.3
Test Orientation	As intended	Stabilization Time (min)	15
Model Number	DLR0140 (R3S-15B)	CCT Setting	5000k

Electrical Measurement:

Sampel No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
#1	120	60	0.1197	14.17	0.9826

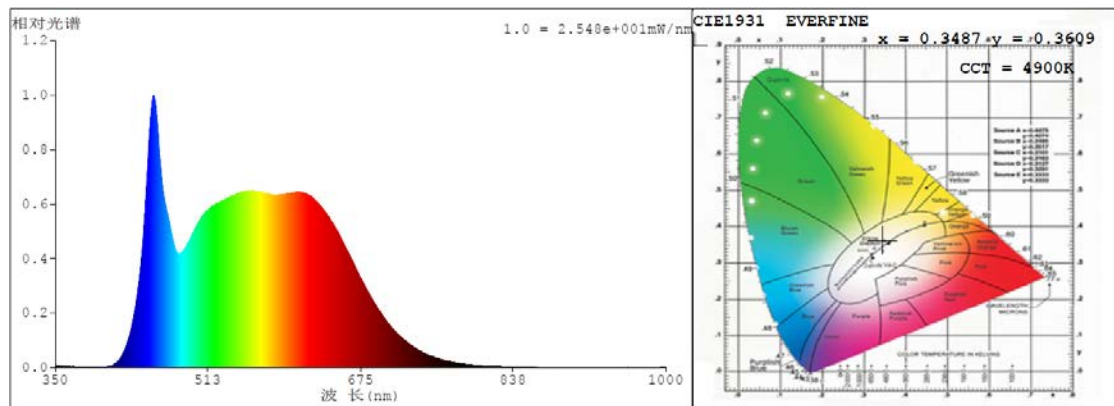
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	93	R9	68
Frequency (Hz)	60	R2	97	R10	92
CCT (K)	4900	R3	98	R11	91
Duv	0.00319	R4	90	R12	68
Chromaticity (x, y)	x=0.3487, y=0.3609	R5	91	R13	95
Chromaticity (u', v')	u' =0.2103, v' =0.4897	R6	94	R14	99
Color Rendering Index (CRI)	93.1	R7	93	R15	90
R9	68	R8	87	--	--

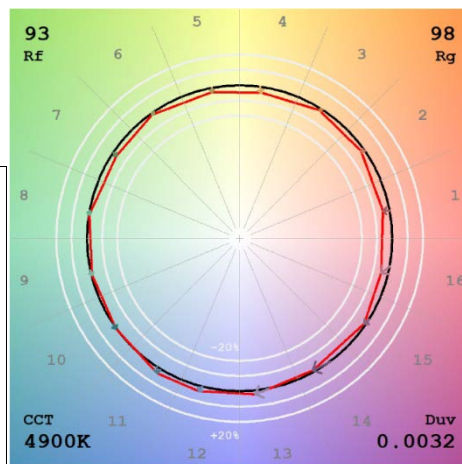
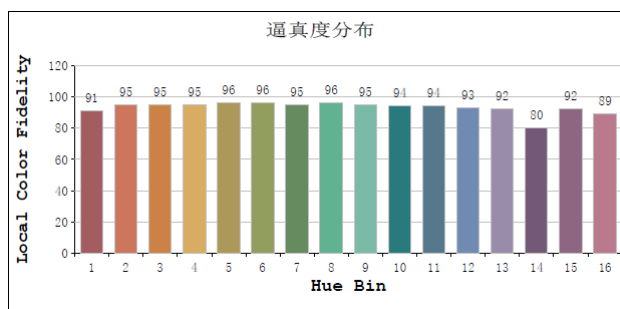
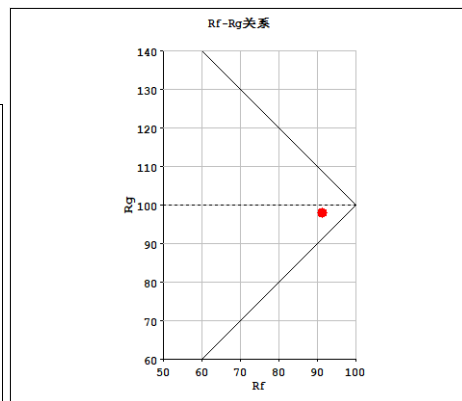
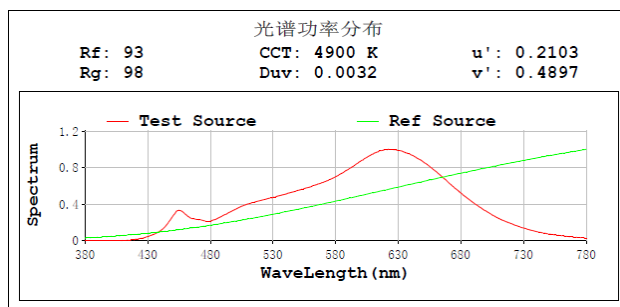
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1164.9
Luminous Efficacy (lm/W)	82.04
Beam Angle (°)	38.7
Center Beam Candle Power (cd)	2344

Spectral Power Distribution & Chromaticity Diagram



TM30

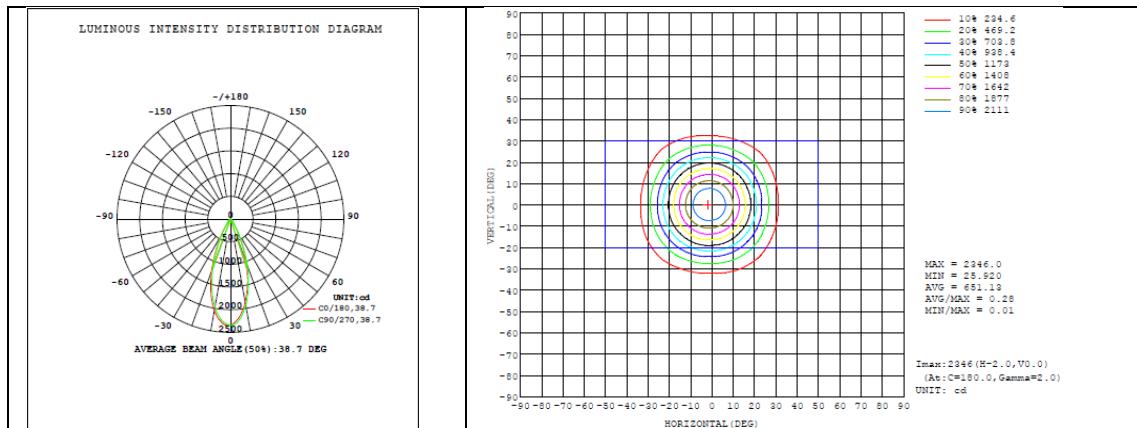


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	944.7	81.1%
0-40	1061.2	91.1%
0-60	1135.8	97.5%
60-90	29.1	2.3%
70-100	12.8	1.1%
90-120	0.0	0.0%
0-90	1164.9	100.0%
90-180	0.0	0.0%
0-180	1164.9	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	203.9	17.5%	90-100	0	0%
10-20	427.5	36.7%	100-110	0	0%
20-30	313.4	26.9%	110-120	0	0%
30-40	116.5	10.0%	120-130	0	0%
40-50	47.8	4.1%	130-140	0	0%
50-60	26.8	2.3%	140-150	0	0%
60-70	16.3	1.4%	150-160	0	0%
70-80	10.5	0.9%	160-170	0	0%
80-90	2.3	0.2%	170-180	0	0%

Photometric Data



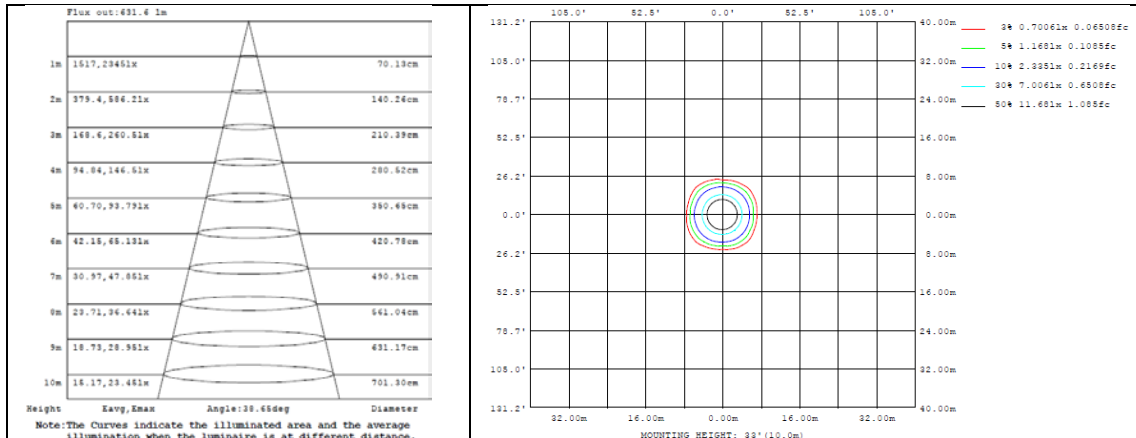


Table--1

UNIT: 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	2333	2333	2333	2333	2333	2333	2333	2333	2333	2333	2333	2333	2333	2333	2333	2333
5	2179	2184	2194	2211	2230	2257	2277	2288	2287	2277	2275	2249	2238	2216	2192	2177
10	1870	1873	1882	1905	1932	1979	2014	2041	2049	2042	2033	1996	1965	1930	1904	1873
15	1459	1463	1470	1498	1534	1580	1628	1662	1670	1665	1657	1617	1584	1538	1507	1467
20	1005	1012	1027	1054	1084	1136	1174	1213	1219	1213	1206	1173	1136	1088	1056	1016
25	576	596	621	637	651	696	742	762	761	762	769	730	686	658	643	605
30	279	297	332	334	334	365	408	415	407	411	427	387	351	335	344	302
35	123	135	173	165	144	168	213	210	178	197	224	190	146	157	181	151
40	71.1	78.3	104	91.9	76.8	89.3	125	111	86.4	97.2	127	99.4	77.0	82.3	106	85.0
45	49.4	54.6	65.9	59.6	52.3	59.7	74.9	66.0	55.3	60.5	75.1	61.6	51.0	54.7	65.3	57.2
50	34.5	38.6	44.8	42.3	37.2	41.7	49.6	44.8	38.8	41.8	48.8	42.9	36.2	38.6	43.8	40.0
55	24.2	27.2	30.6	30.2	26.4	29.9	33.9	32.5	27.8	30.3	33.2	30.7	25.4	27.5	30.0	28.1
60	18.9	20.2	21.0	21.2	19.9	21.5	23.2	22.5	20.1	21.2	22.9	21.3	19.3	20.3	20.6	20.3
65	16.0	16.8	15.8	17.0	17.0	17.7	16.8	17.5	17.3	17.5	16.5	17.1	16.6	17.0	15.6	16.4
70	12.4	12.8	12.5	13.3	13.3	13.8	13.2	14.0	13.3	13.7	13.0	13.4	13.0	13.0	12.3	12.5
75	8.66	8.92	8.89	9.50	9.33	10.0	9.68	9.95	9.75	9.95	9.46	9.59	8.95	9.04	8.71	8.81
80	5.12	5.47	5.40	5.83	6.03	6.27	6.17	6.32	6.28	6.31	5.96	5.92	5.70	5.57	5.22	5.32
85	1.98	2.16	2.14	2.35	2.56	2.76	2.88	3.02	2.80	2.81	2.70	2.50	2.46	2.27	1.99	2.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Model Number	CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
DLR0140 (R3S-15B)	2700K setting	120	973.57	14.17	68.71
	3000K setting	120	1055.5	13.91	75.88
	3500K setting	120	1135.1	13.55	83.79
	4000K setting	120	1169.5	13.66	85.60
	5000K setting	120	1164.9	14.20	82.04