

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) :

DLG0015 (GR2NB)

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

Type of Luminaire: Downlights

Report Date: 2023-6-17

<b>1.1 Rated Values:</b>	
Rated Voltage / Frequency	120V, 60HZ
Nominal Power	6W
Rated Initial Lamp Lumen	350lm (2700k) , 400lm (3000k)
Declared CCT	2700k/3000k/3500k/4000k/5000k

## 1.2 Test Specifications:

Test item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Correlated Color Temperature</li> <li>5. Color Rendering Index</li> <li>6. Chromaticity Coordinate</li> <li>7. Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>4. CIE 15-2004 Technical Report Colorimetry</li> <li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> <li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> </ol>
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 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.

### 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 ±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.

## 2.1.1 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2023-6-17	<b>Test Ambient:</b>	25.3
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	15
<b>Model Number</b>	DLG0015 (GR2NB)	<b>CCT Setting</b>	2700k

### Electrical Measurement:

<b>Sampel No.</b>	<b>Voltage (Vac)</b>	<b>Frequency (Hz)</b>	<b>Current (A)</b>	<b>Power (W)</b>	<b>Power Factor</b>
#1	120	60	0.05041	5.832	0.9600

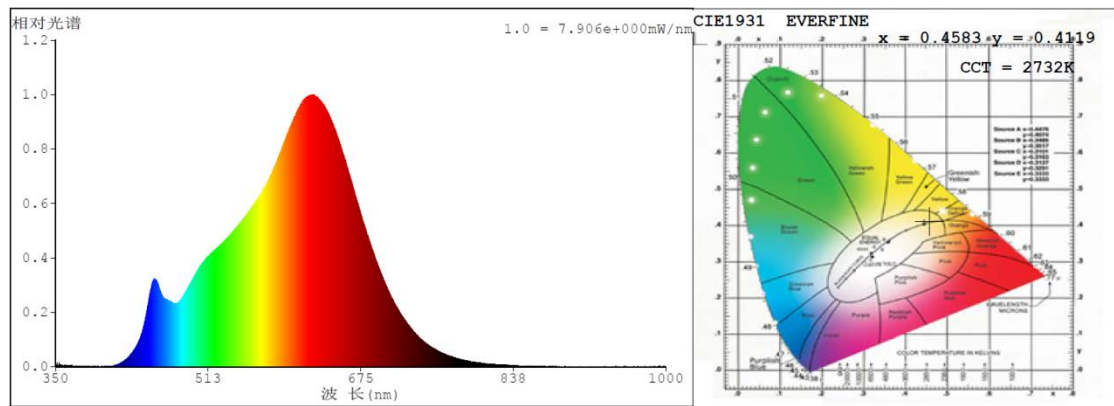
### Chromaticity Measurement – Sphere-Spectroradiometer Method:

<b>Parameter</b>	<b>Result</b>	<b>Special Color Rendering Indices</b>			
Test Voltage (V)	120	R1	96	R9	64
Frequency (Hz)	60	R2	100	R10	99
CCT (K)	2732	R3	97	R11	98
Duv	0.000611	R4	95	R12	89
Chromaticity (x, y)	x=0.4583, y=0.4119	R5	96	R13	97
Chromaticity (u', v')	u' =0.2609, v' =0.5276	R6	97	R14	99
Color Rendering Index (CRI)	94.4	R7	91	R15	91
R9	64	R8	83	--	--

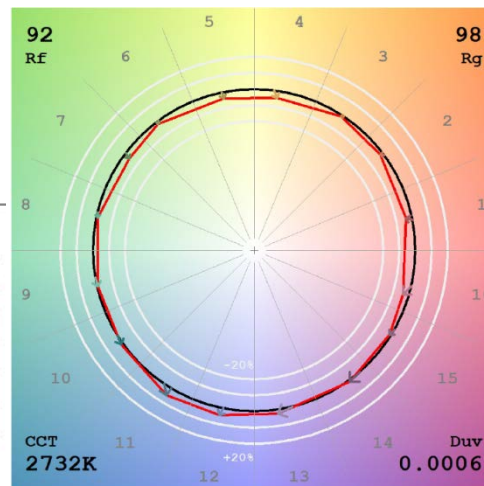
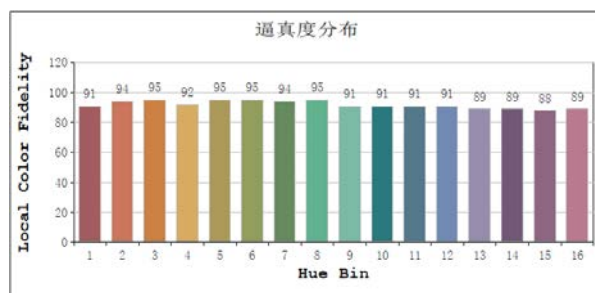
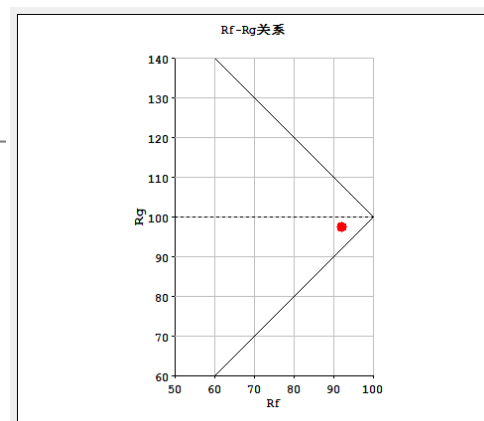
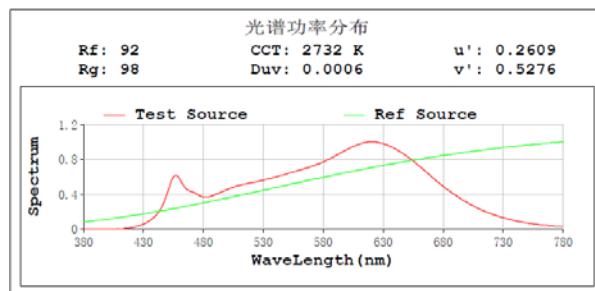
### Photometric Measurement – Goniophotometer Method:

<b>Parameter</b>	<b>Result</b>
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	368.39
Luminous Efficacy (lm/W)	63.26
Beam Angle (°)	20.8
Center Beam Candle Power (cd)	1744

# Spectral Power Distribution & Chromaticity Diagram



## TM30

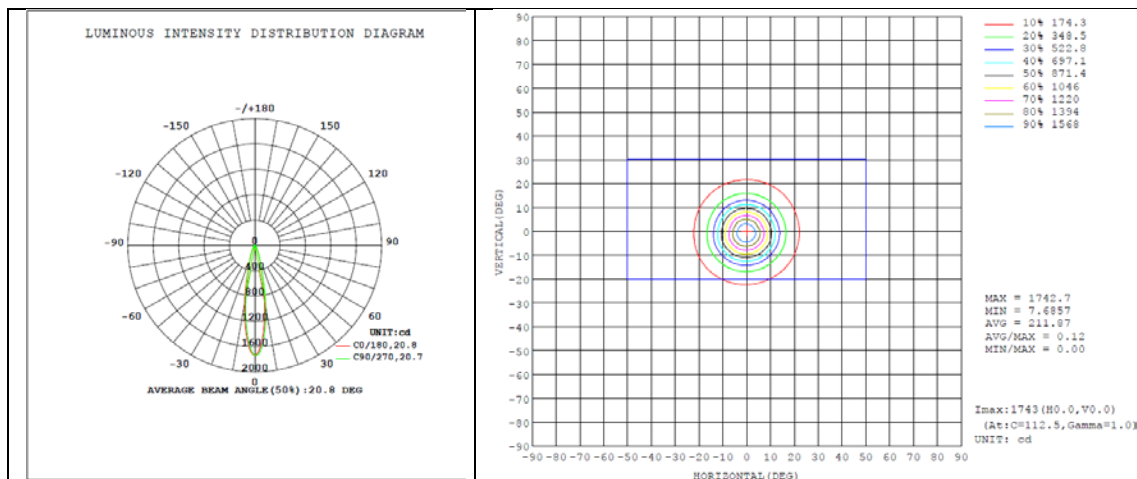


## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	307.2	83.4%
0-40	338.2	91.8%
0-60	362.5	98.4%
60-90	5.9	1.4%
70-100	2.6	0.7%
90-120	0.0	0.0%
0-90	368.4	100.0%
90-180	0.0	0.0%
0-180	368.4	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	121.2	32.9%	90-100	0	0%
10-20	126.4	34.3%	100-110	0	0%
20-30	59.7	16.2%	110-120	0	0%
30-40	30.9	8.4%	120-130	0	0%
40-50	16.2	4.4%	130-140	0	0%
50-60	8.1	2.2%	140-150	0	0%
60-70	3.3	0.9%	150-160	0	0%
70-80	1.8	0.5%	160-170	0	0%
80-90	0.7	0.2%	170-180	0	0%

## Photometric Data



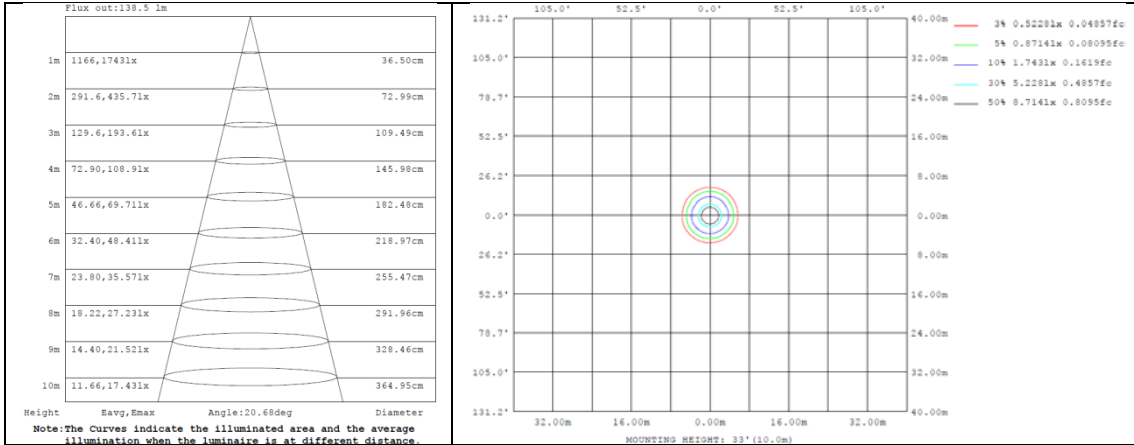


Table--1

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	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735				
5	1448	1480	1490	1512	1526	1540	1525	1522	1463	1432	1427	1405	1392	1384	1391	1398				
10	906	943	952	979	993	1010	996	993	920	879	865	841	833	826	841	848				
15	427	444	443	458	465	478	471	474	436	414	408	395	390	386	393	398				
20	222	224	224	225	231	236	239	237	221	217	213	211	207	209	211	214				
25	127	127	126	128	131	134	136	135	127	123	122	120	120	120	122	122				
30	75.6	76.8	75.9	76.8	77.5	80.2	80.3	81.1	76.3	74.0	73.7	72.4	72.5	72.6	73.3	73.0				
35	47.7	48.2	48.0	48.8	49.2	50.7	50.8	51.3	48.8	47.6	47.4	46.7	47.1	47.1	47.2	46.6				
40	30.6	30.6	30.7	31.4	31.6	32.8	33.2	33.8	32.1	31.7	31.9	31.2	30.8	30.5	30.3	29.9				
45	20.0	20.0	20.0	20.3	20.6	21.3	21.5	21.9	21.1	20.9	20.9	20.7	20.6	20.3	20.2	19.8				
50	12.9	13.0	13.0	13.3	13.5	14.0	14.2	14.5	14.1	14.0	14.1	13.8	13.6	13.3	13.1	12.8				
55	8.47	8.47	8.48	8.64	8.67	8.96	9.03	9.29	9.13	9.12	9.20	9.02	8.99	8.79	8.67	8.46				
60	5.26	5.26	5.14	5.21	5.22	5.47	5.62	5.87	5.74	5.71	5.77	5.66	5.58	5.40	5.33	5.20				
65	2.96	2.91	2.86	2.91	2.94	3.08	3.25	3.40	3.34	3.38	3.40	3.36	3.23	3.13	3.03	2.94				
70	2.18	2.09	2.11	2.07	2.14	2.17	2.28	2.33	2.36	2.43	2.39	2.42	2.33	2.33	2.22	2.23				
75	1.84	1.77	1.79	1.76	1.83	1.86	1.98	2.02	2.05	2.11	2.07	2.10	2.00	1.99	1.89	1.89				
80	1.23	1.18	1.19	1.18	1.27	1.31	1.42	1.47	1.47	1.51	1.47	1.47	1.38	1.36	1.26	1.24				
85	0.43	0.39	0.43	0.42	0.52	0.56	0.65	0.68	0.67	0.71	0.67	0.66	0.56	0.53	0.44	0.42				
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

## 2.1.2 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2023-6-17	<b>Test Ambient:</b>	25.3
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	15
<b>Model Number</b>	DLG0015 (GR2NB)	<b>CCT Setting</b>	3000k

### Electrical Measurement:

<b>Sampel No.</b>	<b>Voltage (Vac)</b>	<b>Frequency (Hz)</b>	<b>Current (A)</b>	<b>Power (W)</b>	<b>Power Factor</b>
#1	120	60	0.04936	5.701	0.9584

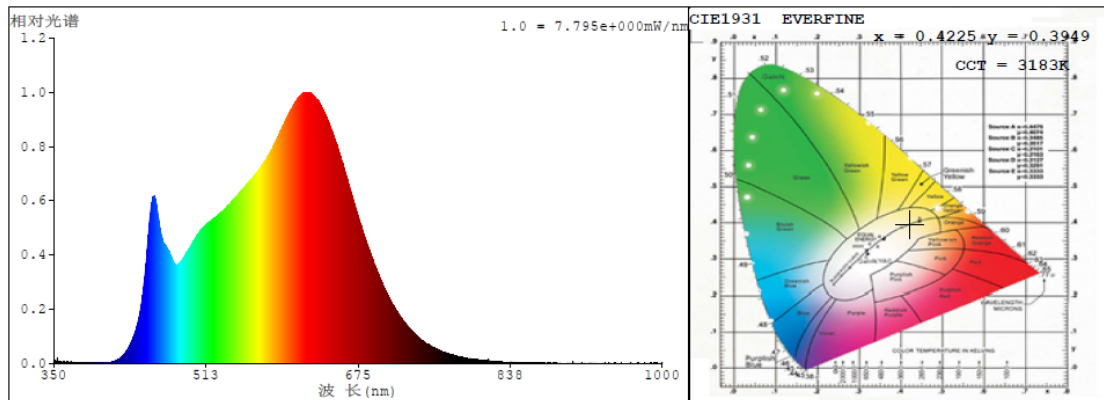
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

<b>Parameter</b>	<b>Result</b>	<b>Special Color Rendering Indices</b>			
Test Voltage (V)	120	R1	98	R9	74
Frequency (Hz)	60	R2	98	R10	97
CCT (K)	3183	R3	96	R11	98
Duv	-0.00155	R4	95	R12	83
Chromaticity (x, y)	x=0.4225, y=0.3949	R5	97	R13	99
Chromaticity (u', v')	u' =0.2451, v' =0.5155	R6	94	R14	98
Color Rendering Index (CRI)	94.4	R7	91	R15	94
R9	74	R8	87	--	--

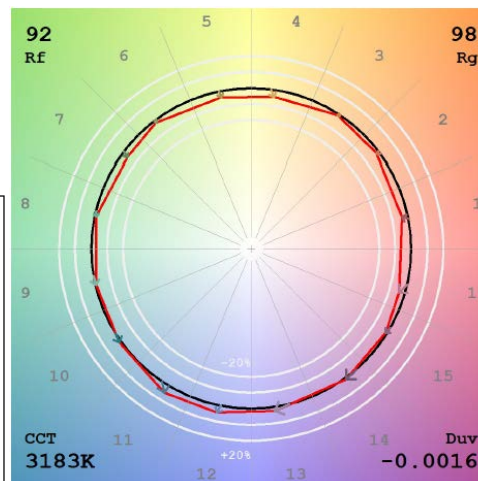
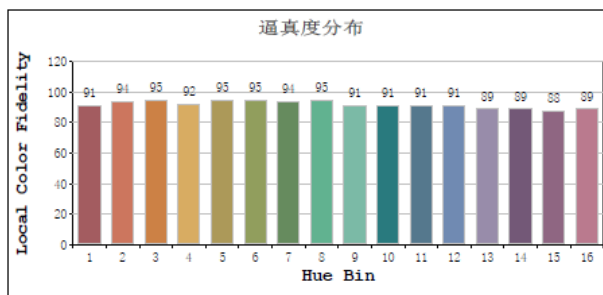
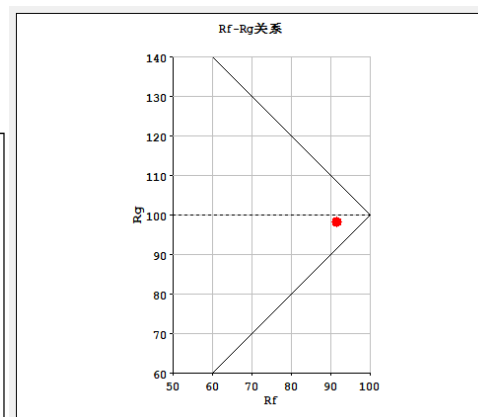
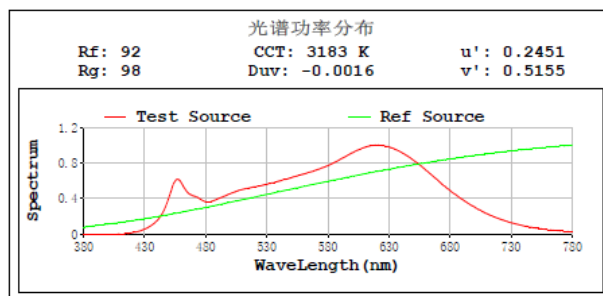
### Photometric Measurement – Goniophotometer Method:

<b>Parameter</b>	<b>Result</b>
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	405.46
Luminous Efficacy (lm/W)	71.20
Beam Angle (°)	20.9
Center Beam Candle Power (cd)	1902

# Spectral Power Distribution & Chromaticity Diagram



## TM30

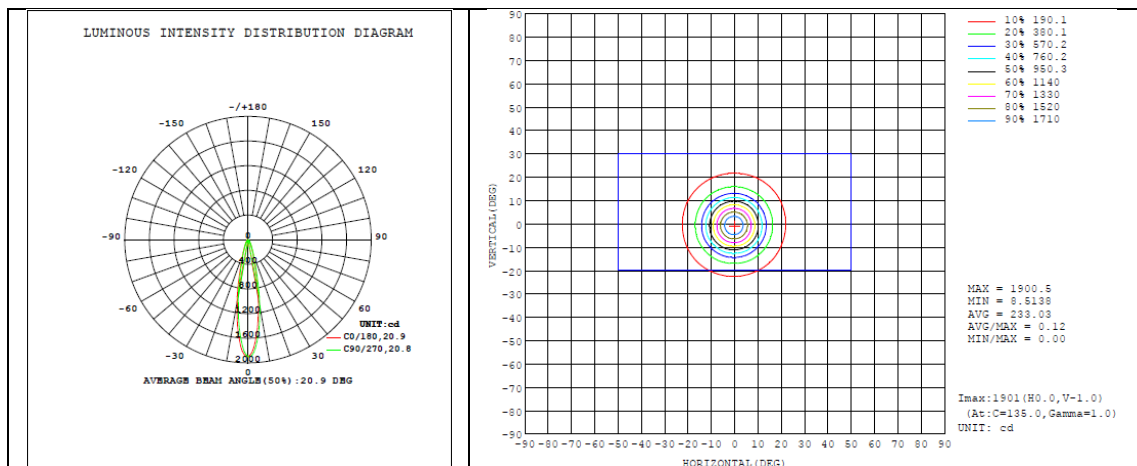


## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	337.7	83.3%
0-40	371.8	91.7%
0-60	399.0	98.4%
60-90	6.5	1.4%
70-100	2.8	0.7%
90-120	0.0	0.0%
0-90	405.5	100.0%
90-180	0.0	0.0%
0-180	405.5	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	133.0	32.8%	90-100	0	0%
10-20	138.7	34.2%	100-110	0	0%
20-30	66.1	16.3%	110-120	0	0%
30-40	34.1	8.4%	120-130	0	0%
40-50	18.2	4.5%	130-140	0	0%
50-60	8.9	2.2%	140-150	0	0%
60-70	3.6	0.9%	150-160	0	0%
70-80	2.0	0.5%	160-170	0	0%
80-90	0.8	0.2%	170-180	0	0%

## Photometric Data



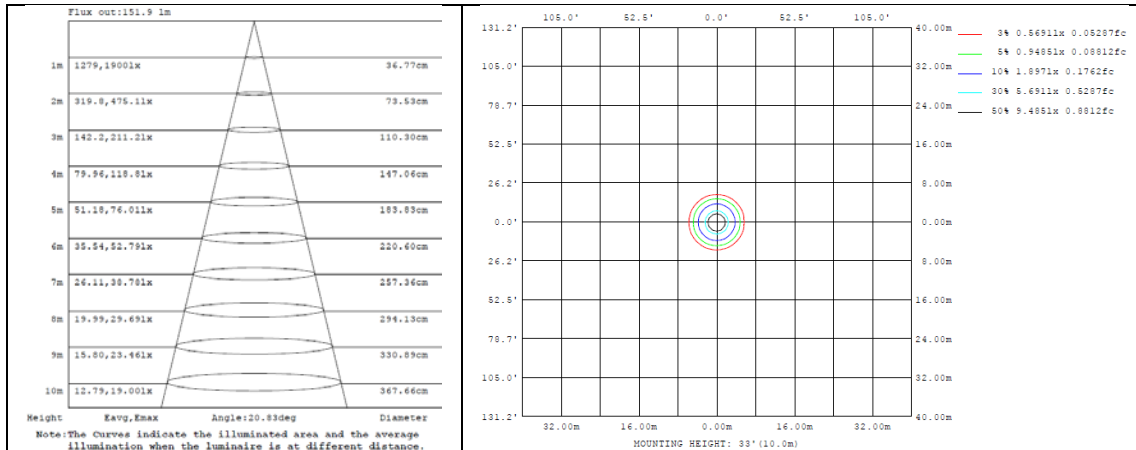


Table--1

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	1895	1895	1895	1895	1895	1895	1895	1895	1895	1895	1895	1895	1895	1895	1895	1895				
5	1568	1596	1622	1655	1672	1690	1680	1670	1634	1605	1572	1541	1526	1514	1530	1541				
10	961	999	1034	1073	1088	1107	1096	1084	1044	1003	964	925	916	905	923	934				
15	452	468	480	502	511	524	521	522	502	477	456	436	430	424	432	438				
20	237	238	245	253	255	264	263	264	255	248	238	233	229	230	232	235				
25	136	137	140	141	145	147	150	148	144	142	137	135	133	134	134	136				
30	80.9	82.3	83.2	85.1	85.7	88.2	88.7	89.0	86.2	84.0	82.4	80.3	80.1	80.0	80.8	80.7				
35	51.5	52.0	52.7	54.0	54.4	55.8	56.4	56.5	54.9	53.8	52.9	51.9	51.9	51.8	52.1	51.7				
40	33.0	33.0	33.8	34.7	35.0	36.2	36.8	37.4	36.4	36.1	35.6	34.5	34.1	33.6	33.5	33.1				
45	21.6	21.6	21.9	22.5	22.8	23.4	23.7	24.1	23.8	23.6	23.4	23.0	22.8	22.4	22.2	21.9				
50	13.9	13.9	14.2	14.7	14.9	15.4	15.7	16.0	15.9	15.9	15.7	15.3	15.0	14.7	14.5	14.1				
55	9.17	9.18	9.31	9.56	9.62	9.88	10.0	10.3	10.3	10.3	10.2	9.99	9.94	9.72	9.62	9.41				
60	5.67	5.63	5.63	5.76	5.77	6.06	6.23	6.49	6.52	6.50	6.46	6.26	6.18	5.97	5.93	5.77				
65	3.19	3.14	3.15	3.22	3.27	3.43	3.61	3.75	3.82	3.86	3.81	3.71	3.59	3.46	3.37	3.28				
70	2.41	2.33	2.34	2.29	2.38	2.41	2.54	2.59	2.64	2.72	2.89	2.68	2.60	2.60	2.49	2.48				
75	2.02	1.95	1.98	1.96	2.05	2.08	2.21	2.25	2.31	2.38	2.31	2.32	2.23	2.21	2.11	2.10				
80	1.33	1.27	1.32	1.33	1.43	1.48	1.59	1.64	1.68	1.72	1.65	1.64	1.54	1.50	1.41	1.38				
85	0.45	0.39	0.47	0.48	0.59	0.64	0.75	0.78	0.81	0.85	0.77	0.75	0.64	0.61	0.50	0.48				
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

### 2.1.3 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2023-6-17	<b>Test Ambient:</b>	25.3
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	15
<b>Model Number</b>	DLG0015 (GR2NB)	<b>CCT Setting</b>	3500k

#### Electrical Measurement:

<b>Sampel No.</b>	<b>Voltage (Vac)</b>	<b>Frequency (Hz)</b>	<b>Current (A)</b>	<b>Power (W)</b>	<b>Power Factor</b>
#1	120	60	0.04842	5.583	0.9568

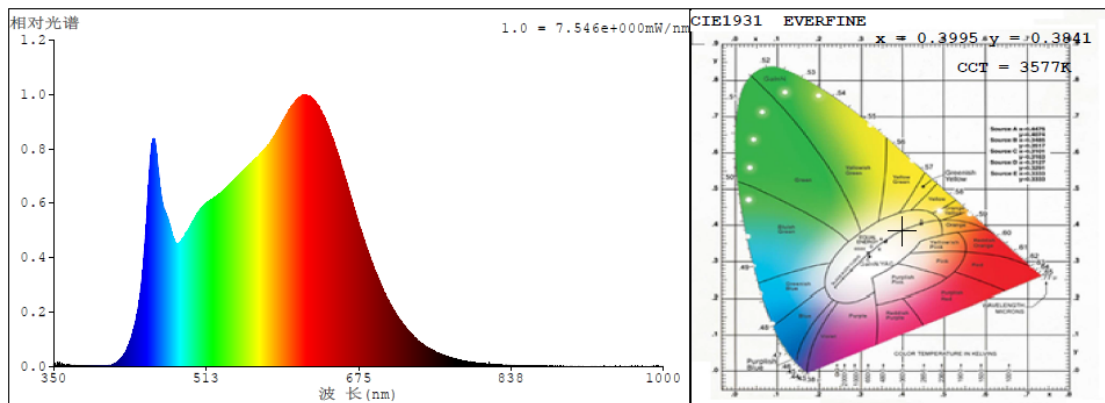
#### Chromaticity Measurement - Sphere-Spectroradiometer Method:

<b>Parameter</b>	<b>Result</b>	<b>Special Color Rendering Indices</b>			
Test Voltage (V)	120	R1	98	R9	77
Frequency (Hz)	60	R2	98	R10	96
CCT (K)	3577	R3	96	R11	97
Duv	-0.00162	R4	94	R12	80
Chromaticity (x, y)	x=0.3995, y=0.3841	R5	96	R13	99
Chromaticity (u', v')	u' =0.2346, v' =0.5076	R6	95	R14	98
Color Rendering Index (CRI)	94.5	R7	91	R15	95
R9	77	R8	88	--	--

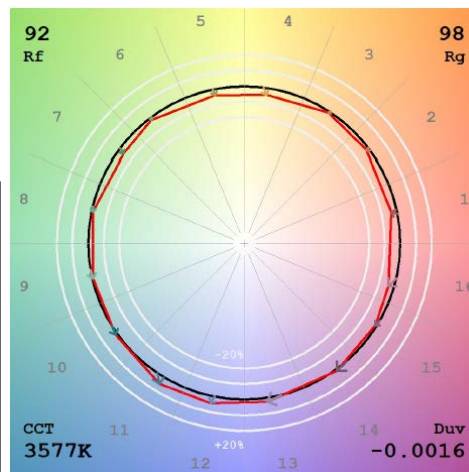
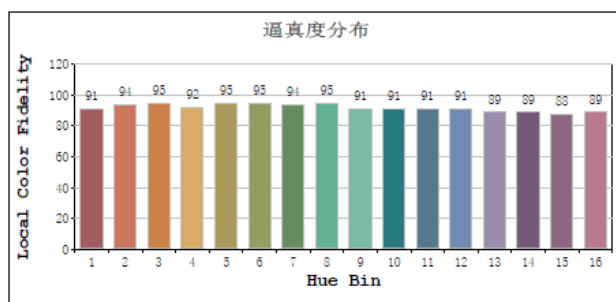
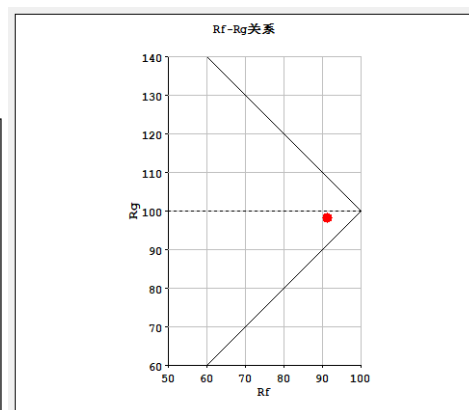
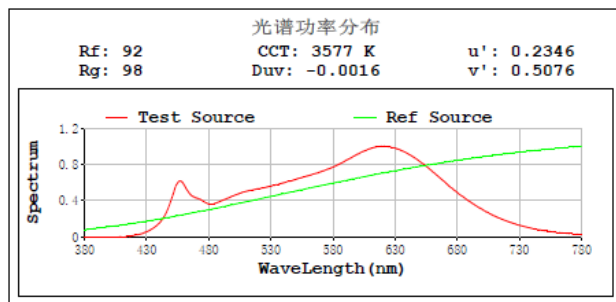
#### Photometric Measurement – Goniophotometer Method:

<b>Parameter</b>	<b>Result</b>
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	426.70
Luminous Efficacy (lm/W)	76.46
Beam Angle (°)	20.9
Center Beam Candle Power (cd)	1991

# Spectral Power Distribution & Chromaticity Diagram



## TM30

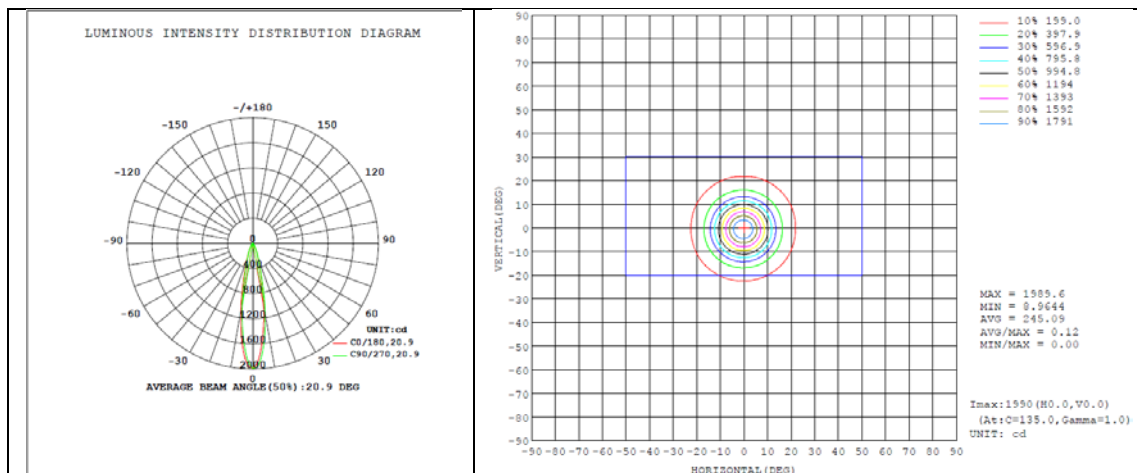


## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	355.4	83.3%
0-40	391.3	91.7%
0-60	419.9	98.4%
60-90	6.8	1.4%
70-100	3.0	0.7%
90-120	0.0	0.0%
0-90	426.7	100.0%
90-180	0.0	0.0%
0-180	426.7	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	139.5	32.7%	90-100	0	0%
10-20	145.9	34.2%	100-110	0	0%
20-30	70.0	16.4%	110-120	0	0%
30-40	35.8	8.4%	120-130	0	0%
40-50	19.2	4.5%	130-140	0	0%
50-60	9.4	2.2%	140-150	0	0%
60-70	3.8	0.9%	150-160	0	0%
70-80	2.1	0.5%	160-170	0	0%
80-90	0.9	0.2%	170-180	0	0%

## Photometric Data



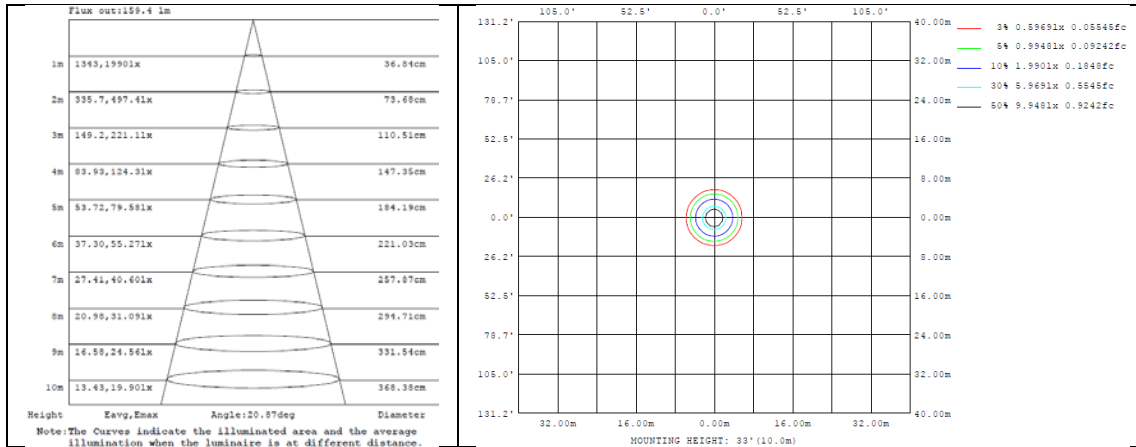


Table--1

UNIT: cd

γ (DEG)	C (DEC)																		
	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	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985			
5	1634	1682	1707	1744	1756	1777	1765	1756	1722	1682	1650	1620	1600	1586	1603	1614			
10	1004	1052	1089	1132	1142	1165	1151	1136	1097	1053	1016	976	960	951	968	979			
15	471	493	506	530	538	553	548	548	531	502	480	460	452	445	453	460			
20	246	255	258	268	269	278	277	277	270	261	256	247	241	242	242	246			
25	142	144	148	150	153	155	158	155	152	150	145	142	140	141	141	142			
30	85.0	86.7	88.2	90.3	90.7	93.1	93.4	93.6	91.2	88.6	87.4	85.4	84.8	84.2	85.0	84.7			
35	54.0	54.8	55.8	57.3	57.5	58.9	59.5	59.5	57.9	56.7	56.0	55.1	54.8	54.6	54.9	54.2			
40	34.5	34.8	35.7	36.7	36.9	38.2	38.8	39.2	38.6	38.1	37.8	36.7	36.0	35.5	35.4	34.9			
45	22.7	22.8	23.2	23.9	24.1	24.7	25.1	25.3	25.1	25.0	24.7	24.4	24.1	23.6	23.4	23.0			
50	14.5	14.7	15.0	15.6	15.7	16.3	16.5	16.9	16.9	16.8	16.6	16.2	15.8	15.5	15.3	14.9			
55	9.66	9.68	9.85	10.1	10.2	10.5	10.6	10.8	10.9	10.9	10.8	10.6	10.5	10.3	10.1	9.90			
60	5.94	5.96	5.95	6.12	6.11	6.41	6.58	6.85	6.92	6.88	6.84	6.63	6.52	6.30	6.25	6.07			
65	3.35	3.32	3.56	3.42	3.45	3.64	3.82	3.97	4.05	4.08	4.03	3.93	3.79	3.66	3.57	3.45			
70	2.55	2.47	2.48	2.44	2.52	2.56	2.69	2.75	2.80	2.88	2.83	2.85	2.75	2.74	2.64	2.62			
75	2.14	2.07	2.10	2.09	2.17	2.21	2.34	2.39	2.44	2.51	2.47	2.47	2.37	2.34	2.24	2.22			
80	1.40	1.36	1.40	1.42	1.51	1.56	1.68	1.74	1.79	1.83	1.76	1.74	1.63	1.59	1.49	1.47			
85	0.47	0.43	0.50	0.52	0.63	0.68	0.79	0.83	0.88	0.90	0.83	0.80	0.70	0.64	0.54	0.52			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

## 2.1.4 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2023-6-17	<b>Test Ambient:</b>	25.3
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	15
<b>Model Number</b>	DLG0015 (GR2NB)	<b>CCT Setting</b>	4000k

### Electrical Measurement:

<b>Sampel No.</b>	<b>Voltage (Vac)</b>	<b>Frequency (Hz)</b>	<b>Current (A)</b>	<b>Power (W)</b>	<b>Power Factor</b>
#1	120	60	0.04890	5.643	0.9576

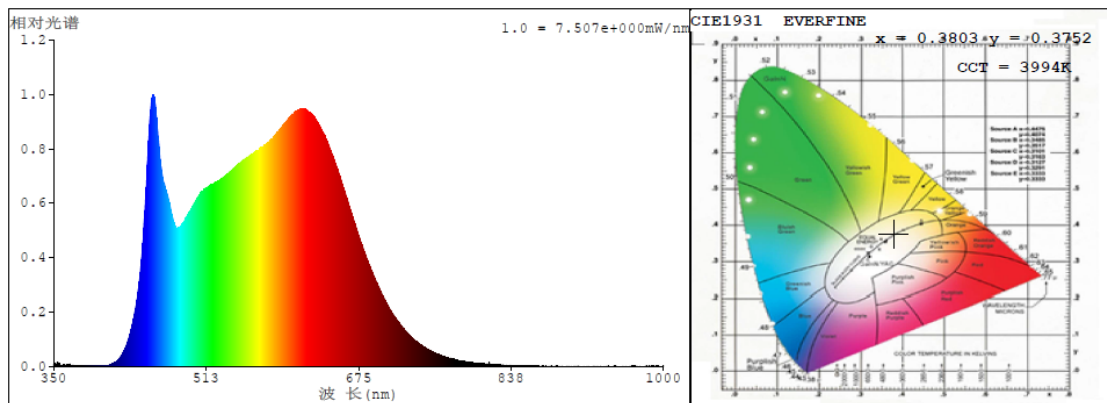
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

<b>Parameter</b>	<b>Result</b>	<b>Special Color Rendering Indices</b>			
Test Voltage (V)	120	R1	97	R9	76
Frequency (Hz)	60	R2	98	R10	98
CCT (K)	3994	R3	96	R11	96
Duv	-0.00067	R4	93	R12	77
Chromaticity (x, y)	x=0.3803, y=0.3752	R5	95	R13	99
Chromaticity (u', v')	u' =0.2256, v' =0.5009	R6	95	R14	99
Color Rendering Index (CRI)	94.4	R7	91	R15	94
R9	76	R8	88	--	--

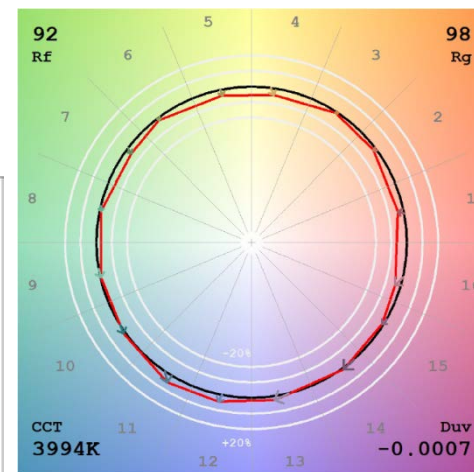
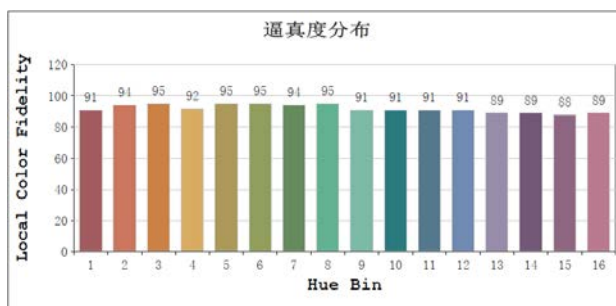
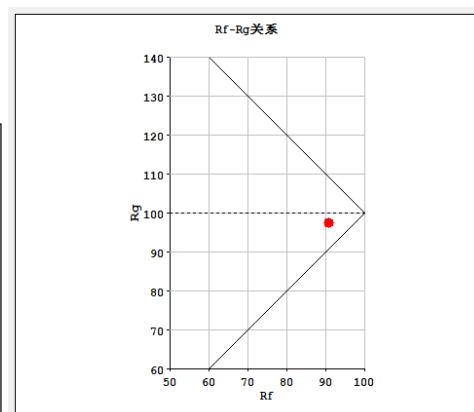
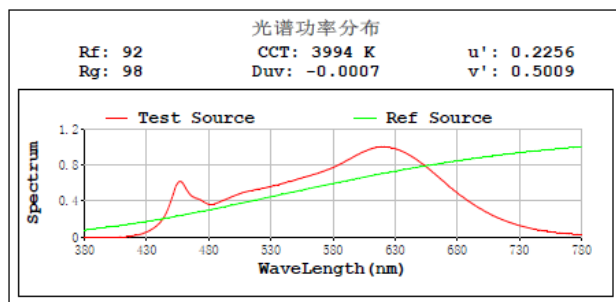
### Photometric Measurement – Goniophotometer Method:

<b>Parameter</b>	<b>Result</b>
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	434.45
Luminous Efficacy (lm/W)	77.01
Beam Angle (°)	21.0
Center Beam Candle Power (cd)	2017

# Spectral Power Distribution & Chromaticity Diagram



## TM30

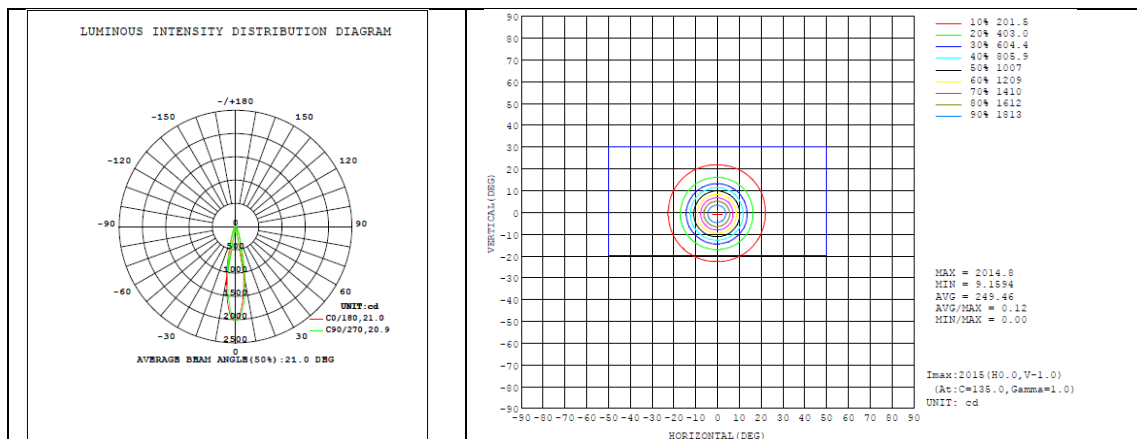


## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	361.5	83.2%
0-40	398.4	91.7%
0-60	427.5	98.4%
60-90	7.0	1.4%
70-100	3.0	0.7%
90-120	0.0	0.0%
0-90	434.5	100.0%
90-180	0.0	0.0%
0-180	434.5	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	141.6	32.6%	90-100	0	0%
10-20	149.0	34.3%	100-110	0	0%
20-30	70.8	16.3%	110-120	0	0%
30-40	36.9	8.5%	120-130	0	0%
40-50	19.6	4.5%	130-140	0	0%
50-60	9.6	2.2%	140-150	0	0%
60-70	3.9	0.9%	150-160	0	0%
70-80	2.2	0.5%	160-170	0	0%
80-90	0.9	0.2%	170-180	0	0%

## Photometric Data





## 2.1.5 Electrical, Photometric and Chromaticity Measurements

<b>Test date</b>	2023-6-17	<b>Test Ambient:</b>	25.3
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	15
<b>Model Number</b>	DLG0015 (GR2NB)	<b>CCT Setting</b>	5000k

### Electrical Measurement:

Sampel No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
#1	120	60	0.05043	5.834	0.9600

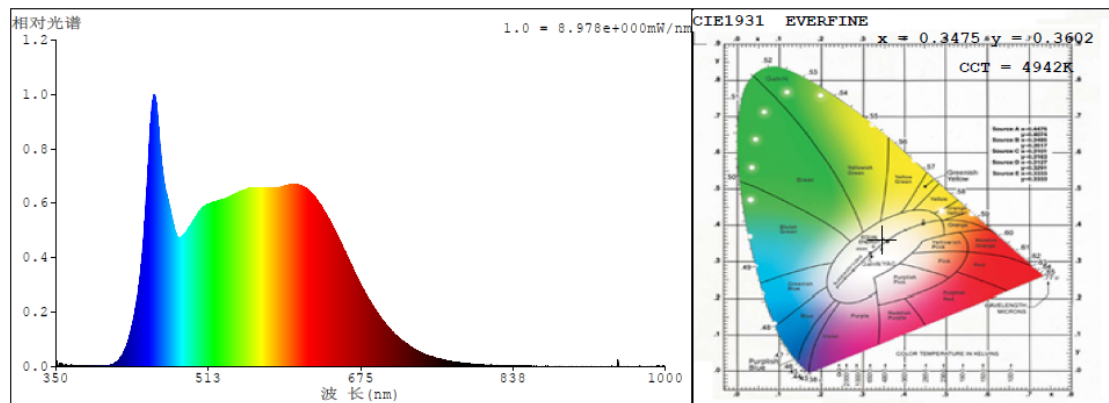
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	93	R9	63
Frequency (Hz)	60	R2	98	R10	95
CCT (K)	4942	R3	97	R11	90
Duv	0.00331	R4	89	R12	70
Chromaticity (x, y)	x=0.3475, y=0.3602	R5	91	R13	95
Chromaticity (u', v')	u' =0.2097, v' =0.4891	R6	95	R14	99
Color Rendering Index (CRI)	92.4	R7	91	R15	89
R9	63	R8	84	--	--

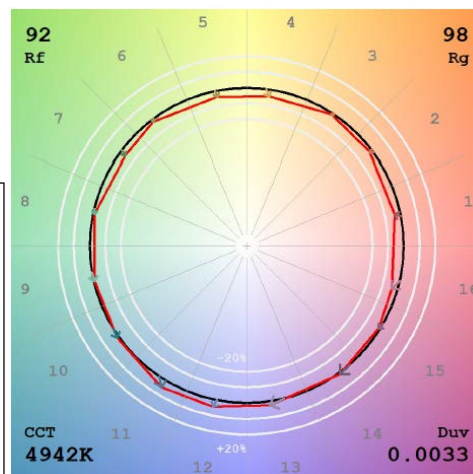
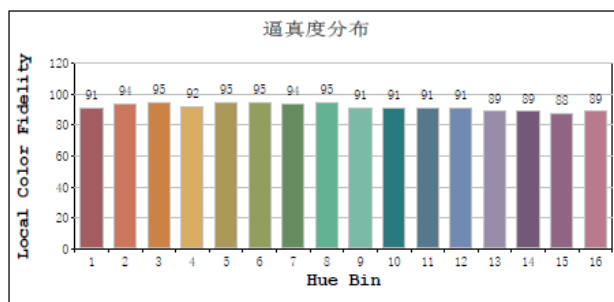
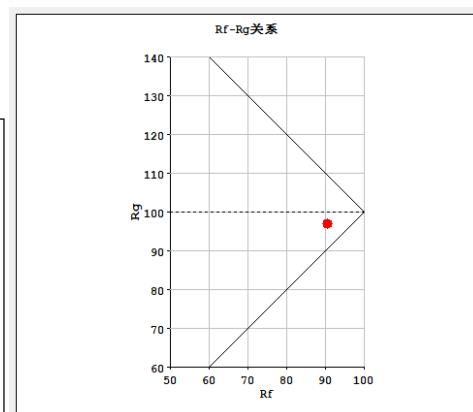
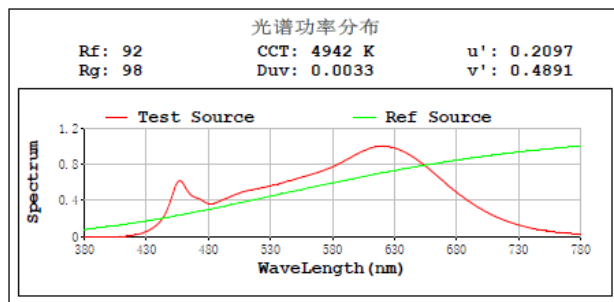
### Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	422.88
Luminous Efficacy (lm/W)	72.53
Beam Angle (°)	21.1
Center Beam Candle Power (cd)	1948

# Spectral Power Distribution & Chromaticity Diagram



## TM30

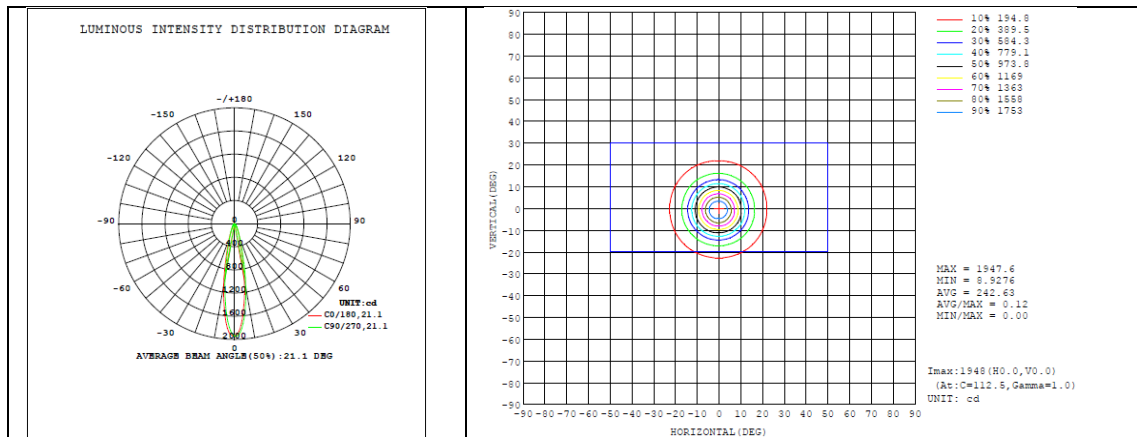


## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	351.4	83.1%
0-40	387.4	91.6%
0-60	415.7	98.3%
60-90	7.2	1.5%
70-100	3.0	0.7%
90-120	0.0	0.0%
0-90	422.9	100.0%
90-180	0.0	0.0%
0-180	422.9	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	137.4	32.5%	90-100	0	0%
10-20	144.6	34.2%	100-110	0	0%
20-30	69.4	16.4%	110-120	0	0%
30-40	35.9	8.5%	120-130	0	0%
40-50	19.0	4.5%	130-140	0	0%
50-60	9.3	2.2%	140-150	0	0%
60-70	4.2	1.0%	150-160	0	0%
70-80	2.1	0.5%	160-170	0	0%
80-90	0.8	0.2%	170-180	0	0%

## Photometric Data



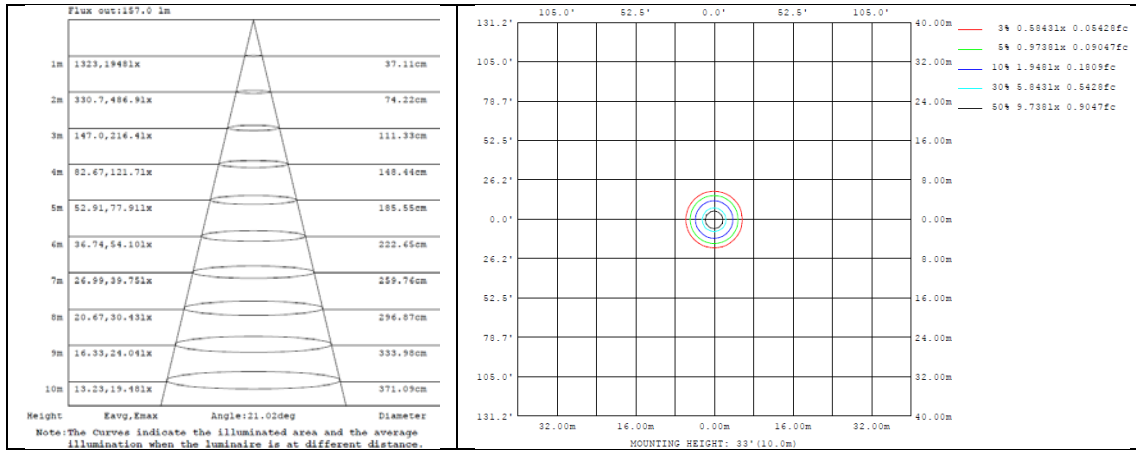


Table--1

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	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941
5	1617	1659	1679	1713	1728	1751	1745	1739	1711	1658	1626	1590	1577	1562	1575	1588
10	985	1039	1076	1115	1126	1146	1130	1122	1091	1041	1009	966	953	938	950	964
15	464	489	502	526	534	549	544	546	531	498	481	459	450	441	446	452
20	243	254	258	268	269	276	273	274	270	260	257	247	241	240	239	243
25	140	143	148	151	153	154	155	154	152	149	146	143	140	140	139	140
30	83.9	86.7	88.5	90.8	90.6	92.5	92.4	93.3	91.2	88.6	88.1	85.9	84.8	83.5	84.2	83.9
35	53.5	54.7	56.0	57.6	57.5	58.7	59.1	59.3	58.0	56.6	56.4	55.3	54.9	54.4	54.5	53.9
40	34.2	34.8	35.8	37.0	37.0	38.0	38.7	39.2	38.7	38.0	37.9	36.6	36.0	35.3	35.1	34.7
45	22.5	22.7	23.2	23.9	24.1	24.6	24.8	25.2	25.1	24.9	24.9	24.4	24.1	23.4	23.2	22.9
50	14.4	14.7	15.0	15.6	15.7	16.2	16.5	16.8	16.9	16.7	16.7	16.2	15.9	15.4	15.2	14.8
55	9.58	9.66	9.83	10.1	10.1	10.4	10.6	10.8	10.9	10.8	10.8	10.6	10.6	10.3	10.1	9.88
60	5.91	5.95	5.93	6.08	6.11	6.39	6.57	6.83	6.96	6.87	6.86	6.66	6.36	6.33	6.22	6.05
65	3.33	3.32	3.32	3.42	3.46	3.63	3.82	3.98	4.08	4.07	4.05	3.97	3.90	3.69	3.55	3.45
70	2.54	2.47	2.47	2.43	2.52	2.55	2.69	2.75	2.81	2.88	2.89	2.89	2.83	2.78	2.63	2.63
75	2.13	2.07	2.09	2.07	2.17	2.20	2.33	2.40	2.45	2.51	2.52	2.50	2.44	2.36	2.24	2.21
80	1.39	1.35	1.40	1.41	1.51	1.56	1.68	1.76	1.80	1.83	1.79	1.78	1.46	1.60	1.50	1.47
85	0.46	0.43	0.49	0.52	0.63	0.68	0.80	0.84	0.89	0.90	0.85	0.83	0.54	0.66	0.54	0.52
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
DLG0015 (GR2NB)	2700K setting	120	368.39	5.83	63.26
	3000K setting	120	405.46	5.69	71.2
	3500K setting	120	426.70	5.58	76.46
	4000K setting	120	434.45	5.64	77.01
	5000K setting	120	422.88	5.83	72.53