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): DLW0090(WFRL6S139FA120WS)

Report Type:	Testing and Report According to IES LM-79-2008
Type of Luminaire:	Downlights
Report Date:	2022-07-18

Prepared By:

Test & Report By:

Engineer: Sun Fangfang

Review By:

Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	13.0 W
Rated Initial Lamp Lumen	850 lm
Declared CCT	2700K/3000K/3500K/4000K/5000K

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	2022-07-18	Test Ambient:	25.3 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLW0090(WFRL6S139FA120WS)	2700K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202207120058	120.0	60	0.106	12.50	0.986

Chromaticity Measurement - Sphere-Spectroradiometer Method:

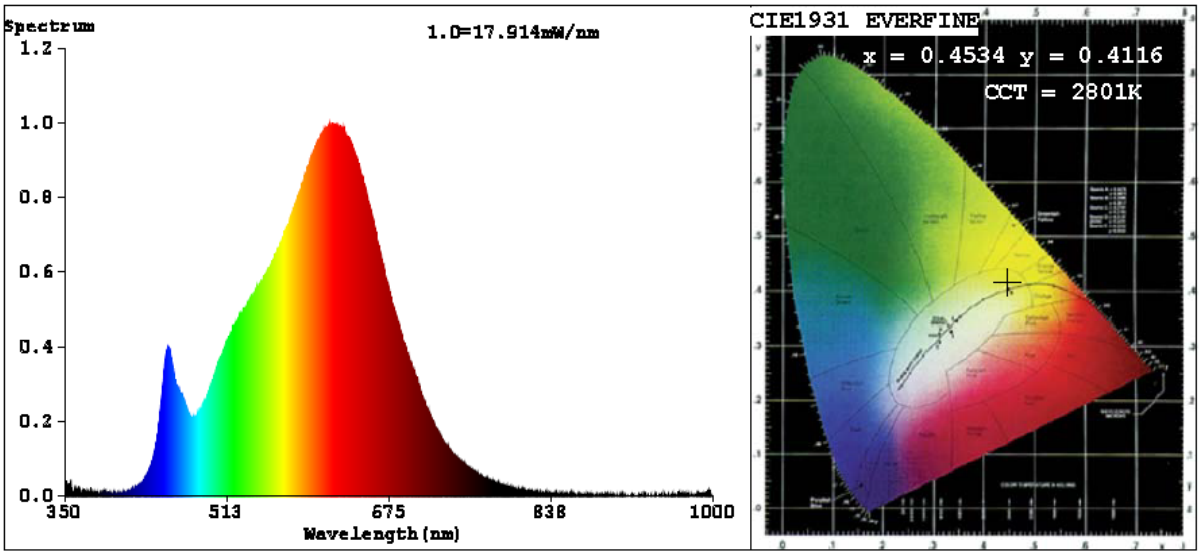
Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	2801
Duv	0.0010
Chromaticity (x, y)	x=0.4534 y=0.4116
Chromaticity (u', v')	u'=0.2579 v'=0.5268
Color Rendering Index (CRI)	91.8
R9	52

Special Color Rendering Indices			
R1	92	R9	52
R2	96	R10	90
R3	99	R11	92
R4	91	R12	82
R5	91	R13	93
R6	96	R14	99
R7	91	R15	86
R8	78	--	--

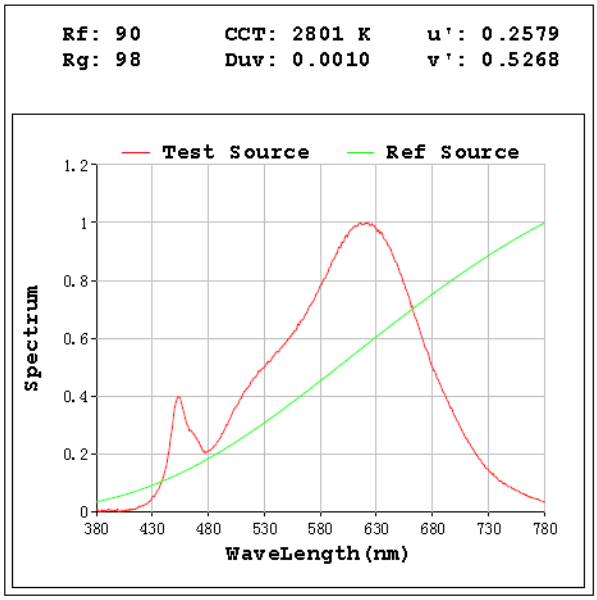
Photometric Measurement – Goniophotometer Method:

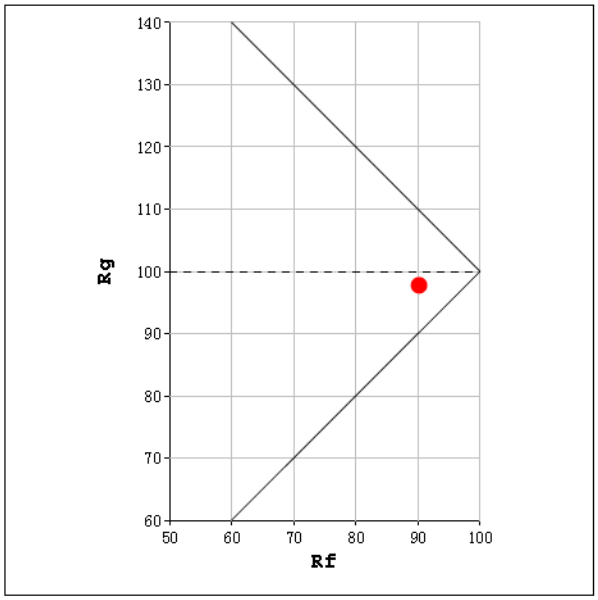
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	857.7
Luminous Efficacy (lm/W)	68.62
Beam Angle (°)	111.8
Center Beam Candle Power (cd)	305.7

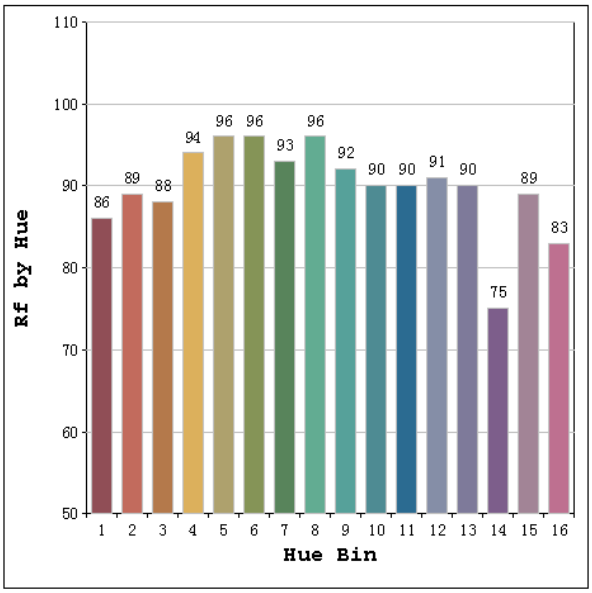
Spectral Power Distribution & Chromaticity Diagram

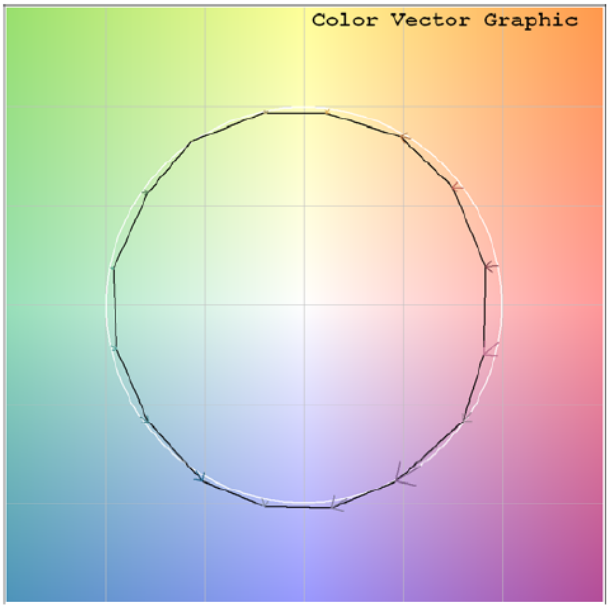


TM30







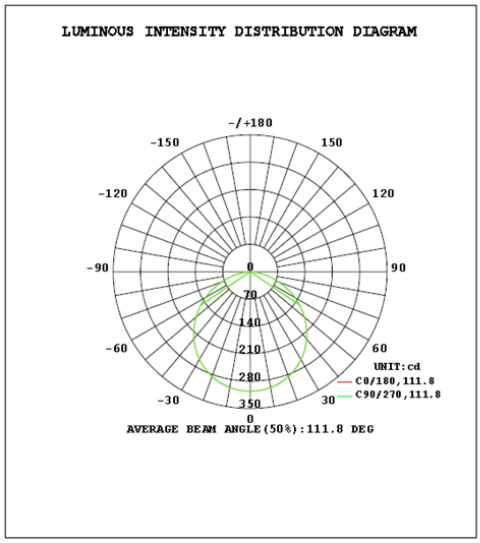


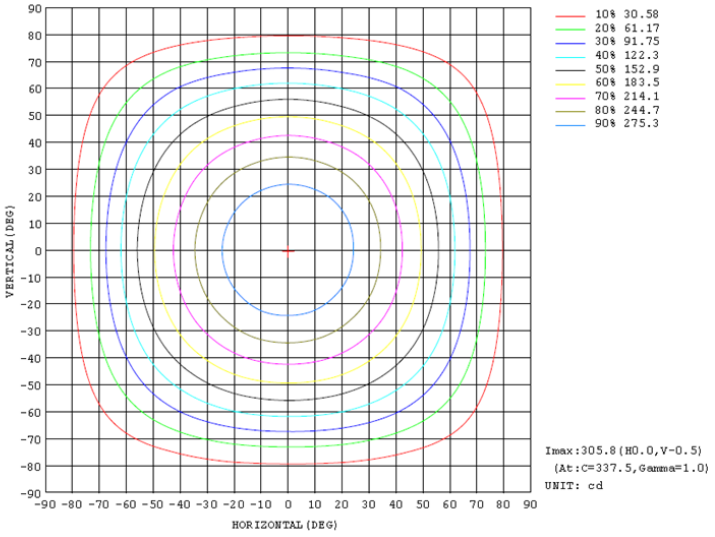
Zonal Lumen Tabulation

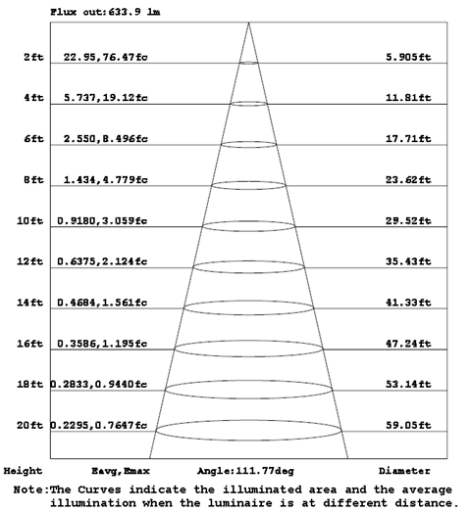
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	238.1	27.8%
0-40	389.9	45.5%
0-60	686.7	80.1%
60-90	171.0	19.9%
70-100	66.5	7.8%
90-120	0.0	0.0%
0-90	857.7	100.0%
90-180	0.0	0.0%
0-180	857.7	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	29.0	3.4%	90-100	0.0	0.0%
10-20	83.1	9.7%	100-110	0.0	0.0%
20-30	126.1	14.7%	110-120	0.0	0.0%
30-40	151.8	17.7%	120-130	0.0	0.0%
40-50	156.6	18.3%	130-140	0.0	0.0%
50-60	140.2	16.3%	140-150	0.0	0.0%
60-70	104.5	12.2%	150-160	0.0	0.0%
70-80	55.3	6.4%	160-170	0.0	0.0%
80-90	11.2	1.3%	170-180	0.0	0.0%

Photometric Data







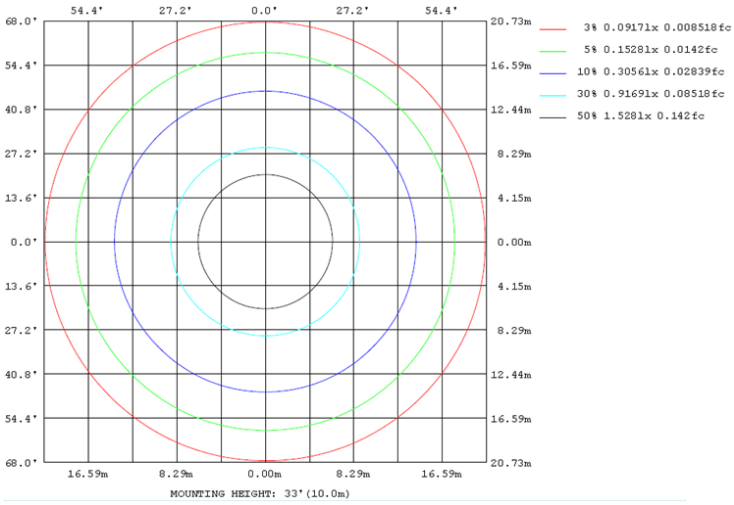


Table--1 UNIT: cd

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	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306			
5	304	305	304	305	304	305	305	305	305	305	304	304	305	305	305	305			
10	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301			
15	294	294	294	294	294	295	294	294	295	294	294	294	294	294	295	295			
20	285	285	285	285	285	286	285	285	286	285	285	285	285	285	286	286			
25	273	274	273	274	273	274	274	274	274	273	273	273	274	274	274	274			
30	259	259	259	259	259	260	259	259	260	259	259	259	259	260	260	260			
35	242	243	242	243	242	243	242	243	243	242	242	242	243	243	244	243			
40	224	224	223	224	224	224	223	224	224	224	224	223	224	224	225	225			
45	203	203	203	204	203	203	202	203	204	203	203	203	203	203	204	204			
50	181	181	180	181	181	181	179	180	181	181	181	180	181	180	181	181			
55	157	157	157	157	157	157	155	156	158	157	157	157	158	157	158	157			
60	132	133	132	133	132	132	130	131	133	132	133	132	133	132	133	133			
65	105	106	107	106	105	105	105	105	106	106	107	105	106	105	107	106			
70	77.8	79.2	79.6	78.9	77.3	77.9	77.8	77.4	78.4	78.2	80.2	78.1	78.4	77.9	80.7	79.2			
75	51.8	53.0	51.9	52.7	51.3	51.8	50.3	51.3	52.2	52.0	52.4	52.0	52.2	51.9	52.9	53.0			
80	28.3	28.9	27.5	28.6	27.8	28.0	26.1	27.2	28.6	28.0	27.8	28.0	28.7	28.2	28.4	28.9			
85	9.29	9.07	8.19	8.83	8.75	8.35	7.21	7.82	9.27	8.35	8.37	8.42	9.52	8.63	8.90	9.18			
90	0.34	0.34	0.34	0.33	0.34	0.33	0.34	0.34	0.32	0.32	0.31	0.33	0.31	0.32	0.31	0.34			

2.1.2 Electrical, Photometric and Chromaticity Measurements

Test date	2022-07-18	Test Ambient:	25.3 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLW0090(WFRL6S139FA120WS)	3000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202207120058	120.0	60	0.105	12.40	0.986

Chromaticity Measurement - Sphere-Spectroradiometer Method:

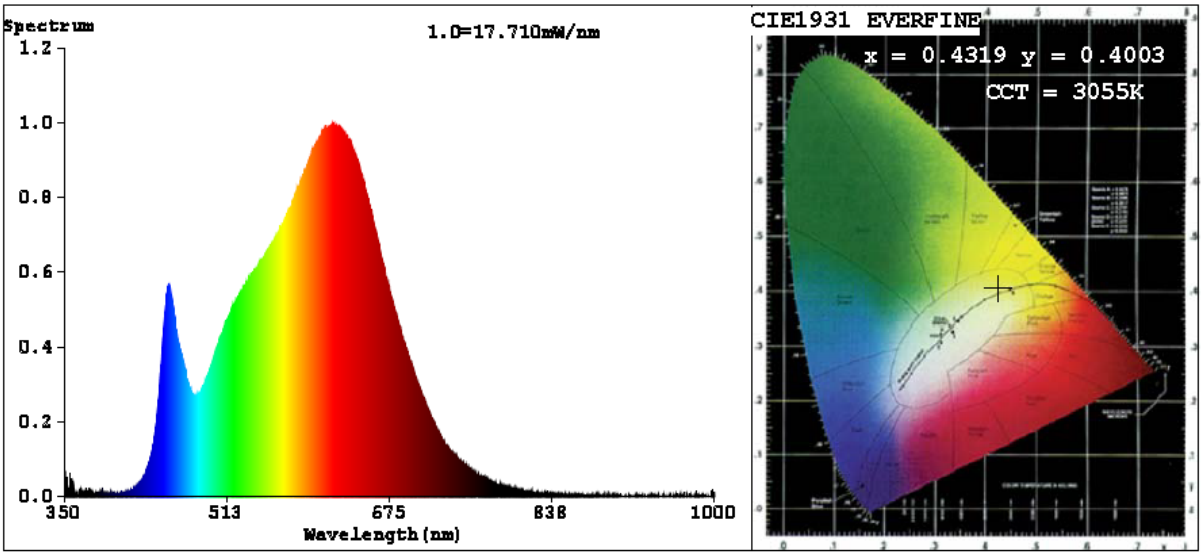
Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3055
Duv	-0.0008
Chromaticity (x, y)	x=0.4319 y=0.4003
Chromaticity (u', v')	u'=0.2490 v'=0.5191
Color Rendering Index (CRI)	93.2
R9	61

Special Color Rendering Indices			
R1	94	R9	61
R2	98	R10	93
R3	99	R11	93
R4	93	R12	80
R5	93	R13	95
R6	96	R14	99
R7	92	R15	90
R8	82	--	--

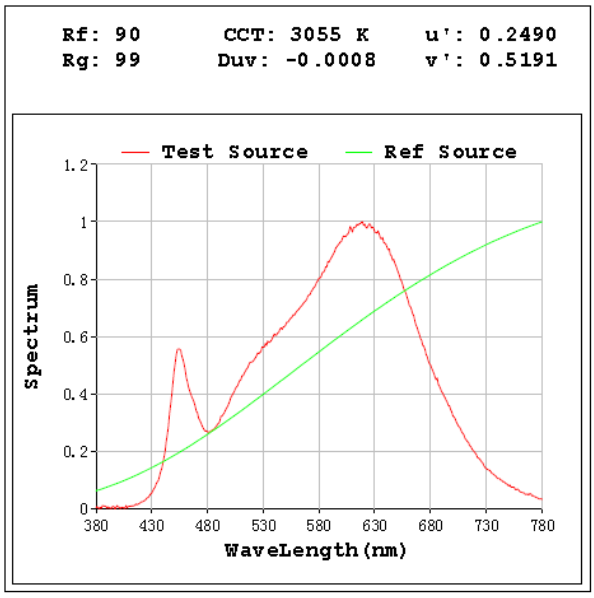
Photometric Measurement – Goniophotometer Method:

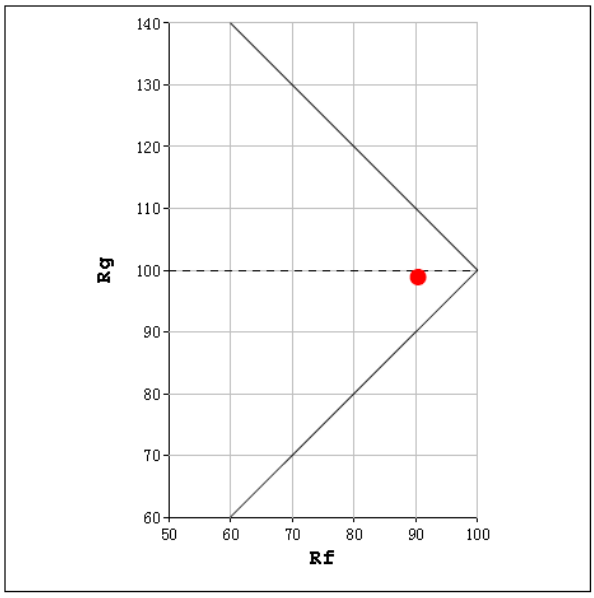
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	898.0
Luminous Efficacy (lm/W)	72.42
Beam Angle (°)	111.8
Center Beam Candle Power (cd)	320.1

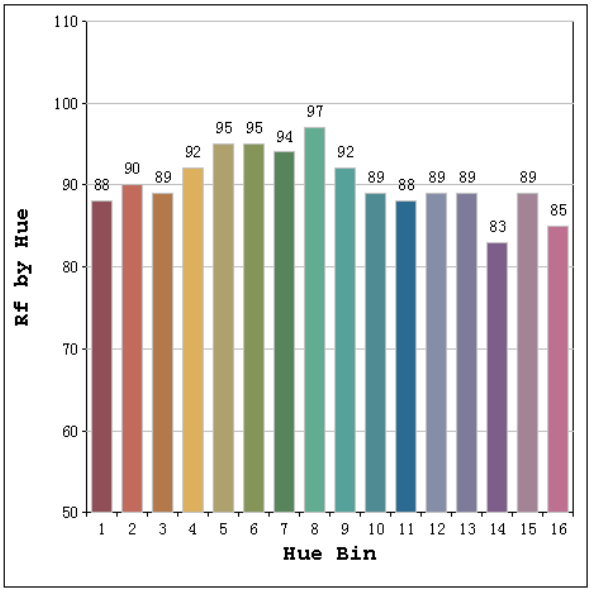
Spectral Power Distribution & Chromaticity Diagram

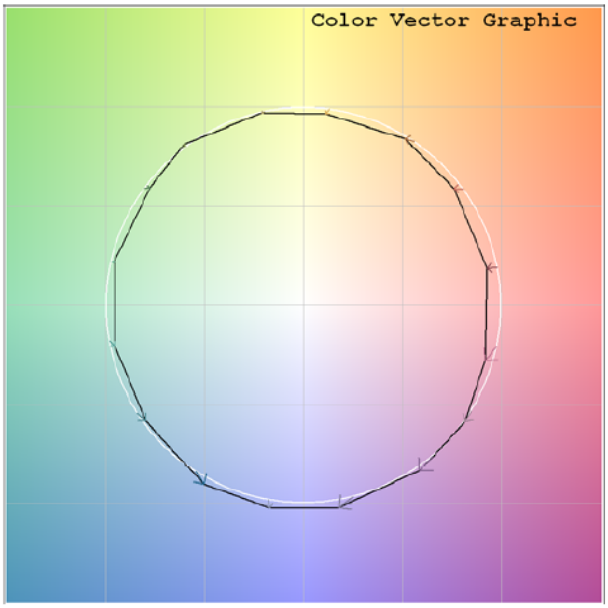


TM30







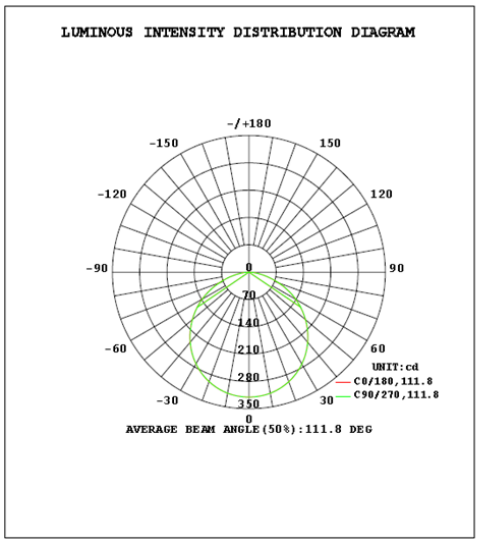


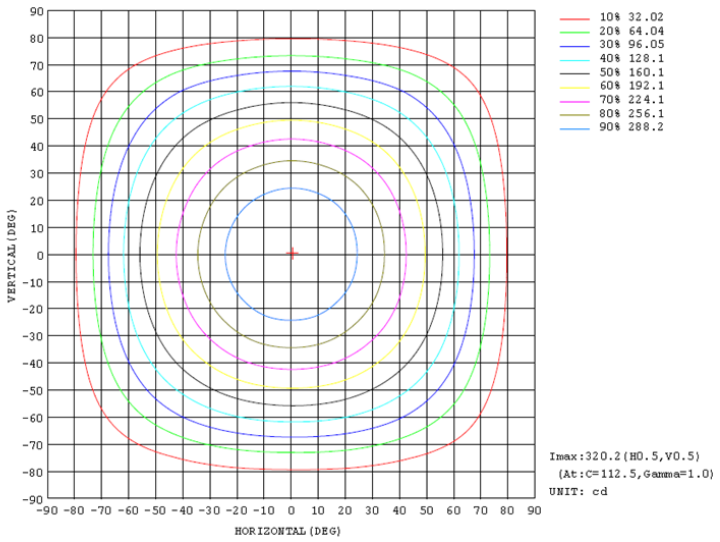
Zonal Lumen Tabulation

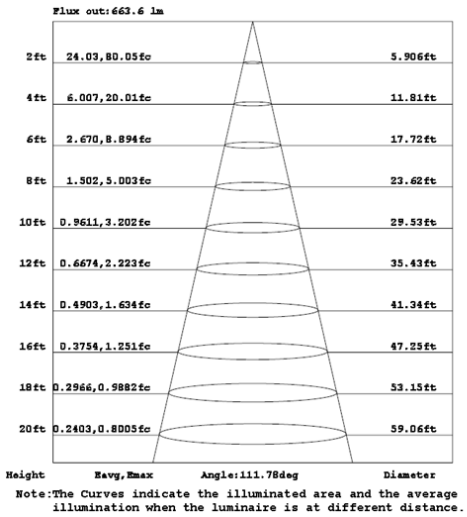
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	249.3	27.8%
0-40	408.2	45.5%
0-60	719.0	80.1%
60-90	179.0	19.9%
70-100	69.6	7.8%
90-120	0.0	0.0%
0-90	898.0	100.0%
90-180	0.0	0.0%
0-180	898.0	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	30.3	3.4%	90-100	0.0	0.0%
10-20	87.0	9.7%	100-110	0.0	0.0%
20-30	132.0	14.7%	110-120	0.0	0.0%
30-40	158.9	17.7%	120-130	0.0	0.0%
40-50	164.0	18.3%	130-140	0.0	0.0%
50-60	146.8	16.3%	140-150	0.0	0.0%
60-70	109.4	12.2%	150-160	0.0	0.0%
70-80	57.9	6.4%	160-170	0.0	0.0%
80-90	11.7	1.3%	170-180	0.0	0.0%

Photometric Data







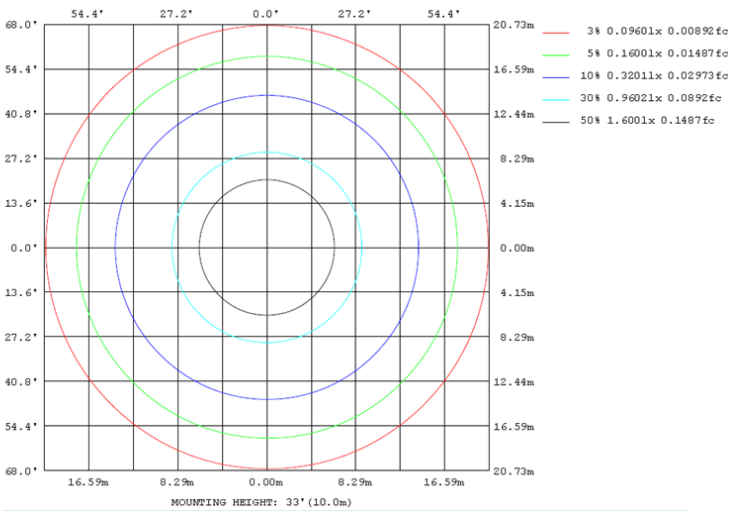


Table--1 UNIT: cd

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	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320			
5	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319			
10	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315			
15	308	308	308	308	308	308	308	308	308	308	308	308	308	308	309	309			
20	299	299	298	299	298	299	299	299	299	298	298	298	299	299	300	299			
25	286	287	286	287	286	287	286	286	286	286	286	286	287	287	287	287			
30	271	272	271	272	271	272	271	271	272	271	271	271	272	272	273	272			
35	254	254	254	254	254	254	253	254	254	253	254	253	254	254	255	255			
40	235	235	234	235	234	234	233	234	235	234	234	234	235	235	235	235			
45	213	213	213	213	212	212	211	212	213	212	212	212	213	213	214	213			
50	190	190	189	190	189	189	188	188	189	189	189	189	190	189	190	190			
55	165	165	165	165	164	164	163	163	164	164	164	164	165	164	165	165			
60	139	139	139	139	138	138	136	137	138	138	138	138	139	138	139	139			
65	111	112	112	111	109	110	110	109	110	110	112	110	111	110	112	112			
70	82.1	83.5	83.7	82.8	80.8	81.2	81.2	80.7	81.4	81.3	83.5	81.7	82.2	82.0	84.7	83.2			
75	54.9	56.0	54.7	55.3	53.6	53.9	52.4	53.4	54.0	53.9	54.5	54.3	54.8	54.6	55.6	55.7			
80	30.2	30.7	29.1	30.0	29.1	29.0	27.1	28.3	29.4	28.8	28.8	29.2	30.2	29.7	29.9	30.5			
85	10.1	9.84	8.79	9.32	9.12	8.53	7.43	8.02	9.29	8.44	8.55	8.72	10.0	9.25	9.46	9.78			
90	0.36	0.35	0.37	0.35	0.35	0.37	0.37	0.36	0.33	0.35	0.34	0.34	0.33	0.35	0.35	0.37			

2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2022-07-18	Test Ambient:	25.3 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLW0090(WFRL6S139FA120WS)	3500K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202207120058	120.0	60	0.103	12.20	0.985

Chromaticity Measurement - Sphere-Spectroradiometer Method:

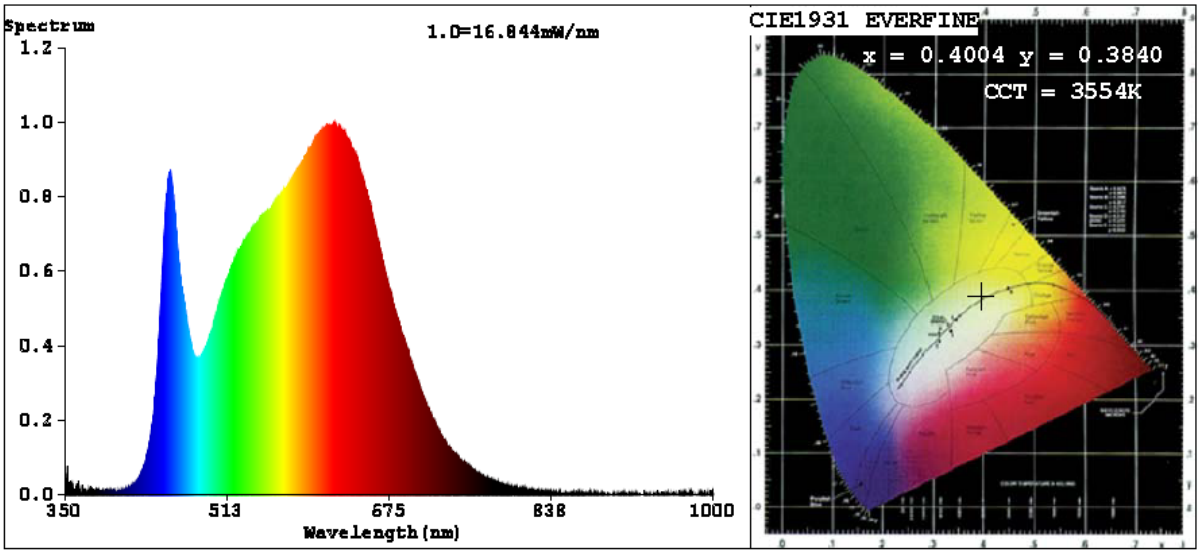
Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	3554
Duv	-0.0019
Chromaticity (x, y)	x=0.4004 y=0.3840
Chromaticity (u', v')	u'=0.2353 v'=0.5077
Color Rendering Index (CRI)	94.3
R9	71

Special Color Rendering Indices			
R1	95	R9	95
R2	98	R10	98
R3	98	R11	98
R4	93	R12	93
R5	94	R13	94
R6	95	R14	95
R7	93	R15	93
R8	87	--	--

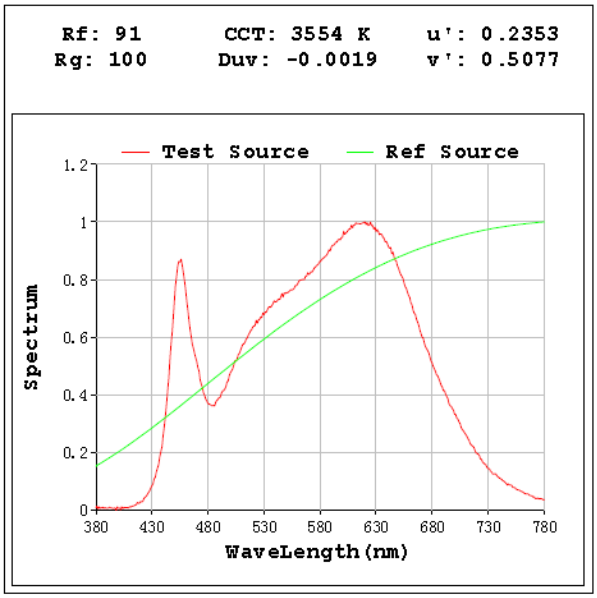
Photometric Measurement – Goniophotometer Method:

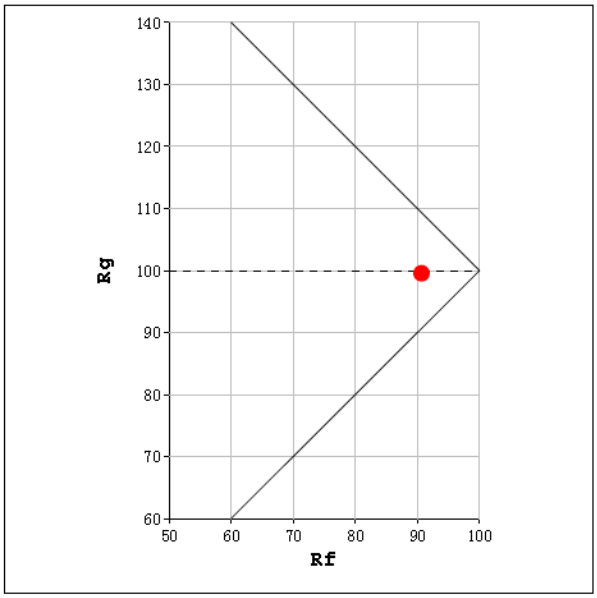
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	946.8
Luminous Efficacy (lm/W)	77.60
Beam Angle (°)	111.8
Center Beam Candle Power (cd)	337.6

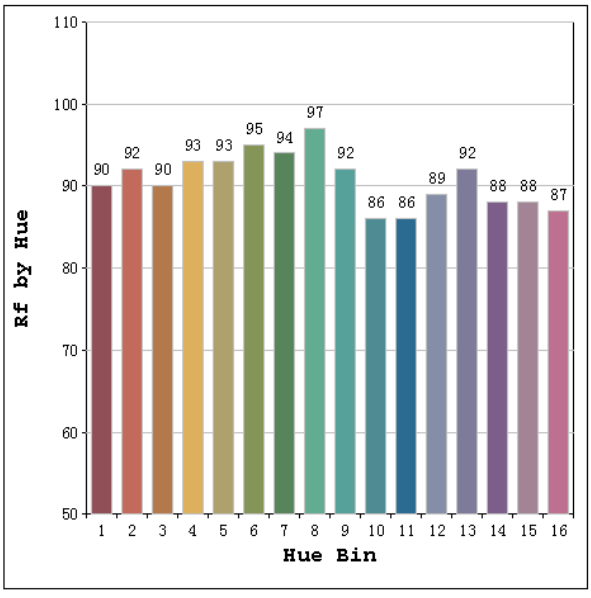
Spectral Power Distribution & Chromaticity Diagram

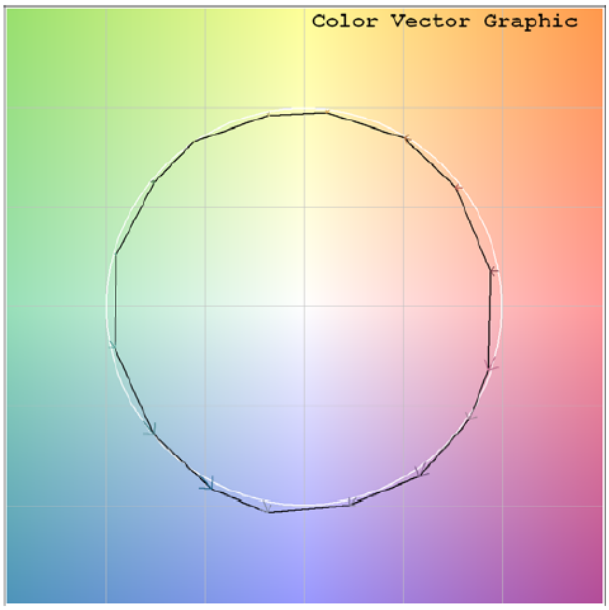


TM30







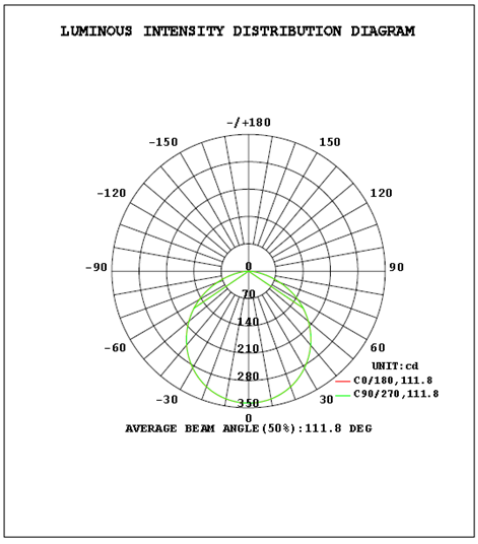


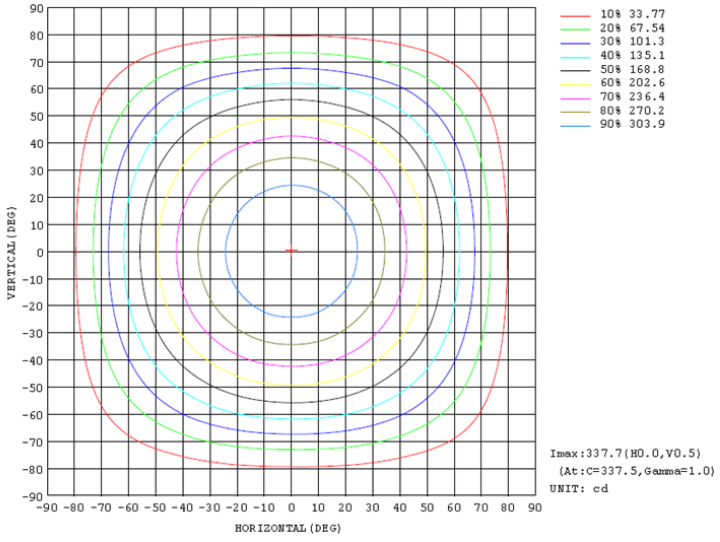
Zonal Lumen Tabulation

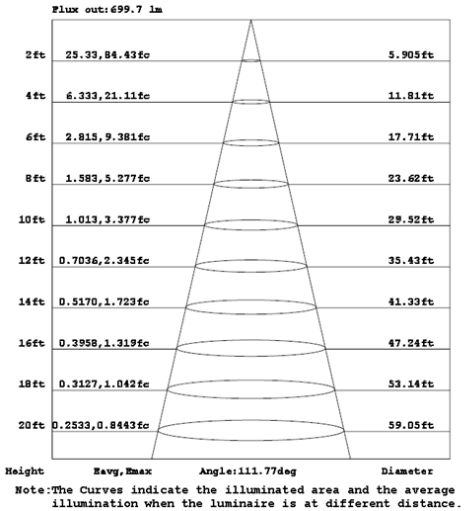
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	262.9	27.8%
0-40	430.4	45.5%
0-60	758.0	80.1%
60-90	188.8	19.9%
70-100	73.4	7.8%
90-120	0.0	0.0%
0-90	946.8	100.0%
90-180	0.0	0.0%
0-180	946.8	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	32.0	3.4%	90-100	0.0	0.0%
10-20	91.7	9.7%	100-110	0.0	0.0%
20-30	139.2	14.7%	110-120	0.0	0.0%
30-40	167.5	17.7%	120-130	0.0	0.0%
40-50	172.9	18.3%	130-140	0.0	0.0%
50-60	154.8	16.3%	140-150	0.0	0.0%
60-70	115.4	12.2%	150-160	0.0	0.0%
70-80	61.1	6.4%	160-170	0.0	0.0%
80-90	12.4	1.3%	170-180	0.0	0.0%

Photometric Data







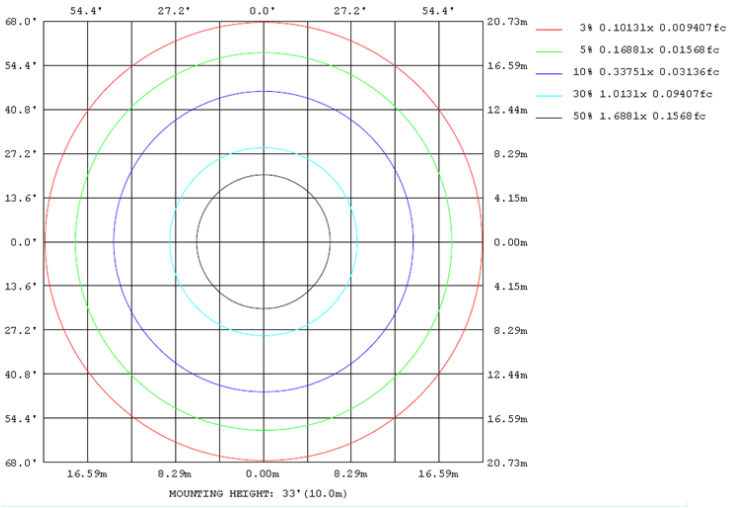


Table--1

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	338	338	338	338	338	338	338	338	338	338	338	338	338	338	338	338			
5	336	336	336	336	336	336	336	336	336	336	336	336	336	336	336	336			
10	332	332	332	332	332	332	332	332	332	332	332	332	332	332	332	332			
15	325	325	325	325	325	325	325	325	325	325	325	325	325	325	326	326			
20	315	315	315	315	315	315	315	315	315	314	315	315	315	315	316	316			
25	302	302	302	302	302	302	302	302	302	301	302	302	302	302	303	303			
30	286	287	286	286	286	286	286	286	286	286	286	286	287	287	287	287			
35	268	268	267	268	267	268	267	267	268	267	267	267	268	268	269	269			
40	247	248	247	248	247	247	246	246	247	246	247	247	248	247	248	248			
45	225	225	224	225	224	224	223	223	224	224	224	224	225	224	225	225			
50	200	201	200	200	199	199	198	198	200	199	199	199	200	199	200	200			
55	174	174	174	174	173	173	171	172	173	172	173	173	174	173	174	174			
60	146	147	146	147	145	145	144	144	146	145	146	146	147	146	147	147			
65	117	118	118	117	115	116	115	115	116	116	118	116	117	117	119	118			
70	86.6	88.0	88.3	87.2	85.2	85.6	85.5	85.1	85.9	85.8	88.1	86.2	86.7	86.4	89.2	87.7			
75	57.9	59.1	57.8	58.3	56.4	56.8	55.2	56.3	57.0	56.8	57.4	57.3	57.8	57.7	58.7	58.8			
80	31.9	32.4	30.6	31.6	30.6	30.5	28.5	29.8	31.0	30.4	30.4	30.8	31.8	31.4	31.5	32.1			
85	10.7	10.4	9.27	9.82	9.59	8.98	7.81	8.44	9.78	8.86	9.03	9.19	10.6	9.79	10.0	10.3			
90	0.39	0.38	0.39	0.38	0.38	0.37	0.38	0.38	0.36	0.37	0.37	0.37	0.35	0.37	0.37	0.39			

2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2022-07-18	Test Ambient:	25.3 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLW0090(WFRL6S139FA120WS)	4000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202207120058	120.0	60	0.104	12.30	0.986

Chromaticity Measurement - Sphere-Spectroradiometer Method:

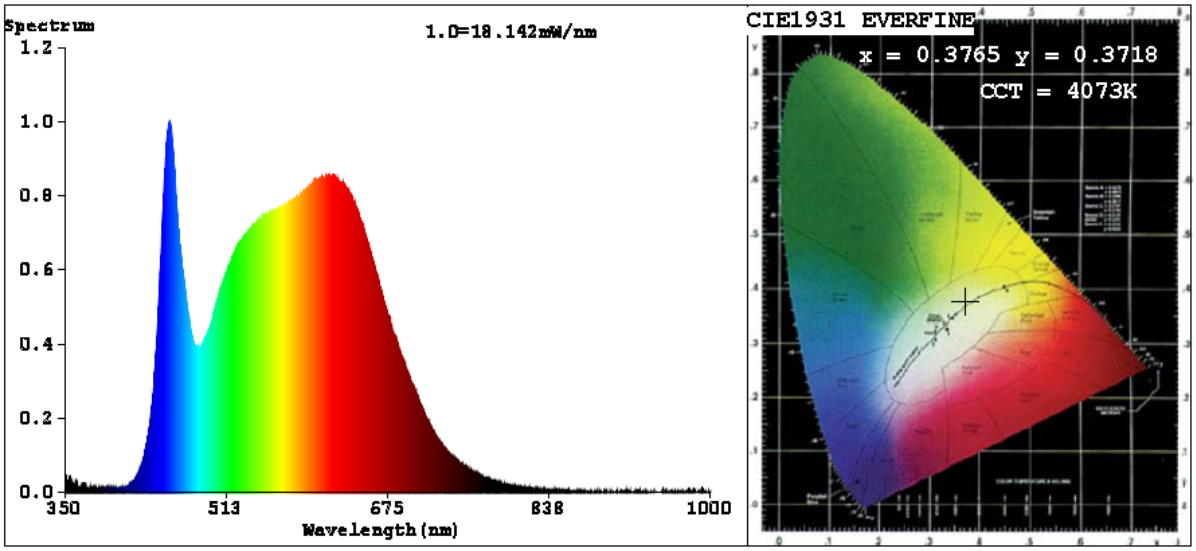
Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4073
Duv	-0.0012
Chromaticity (x, y)	x=0.3765 y=0.3718
Chromaticity (u', v')	u'=0.2245 v'=0.4988
Color Rendering Index (CRI)	94.1
R9	74

Special Color Rendering Indices			
R1	95	R9	74
R2	98	R10	92
R3	97	R11	93
R4	93	R12	71
R5	93	R13	96
R6	94	R14	98
R7	94	R15	94
R8	89	--	--

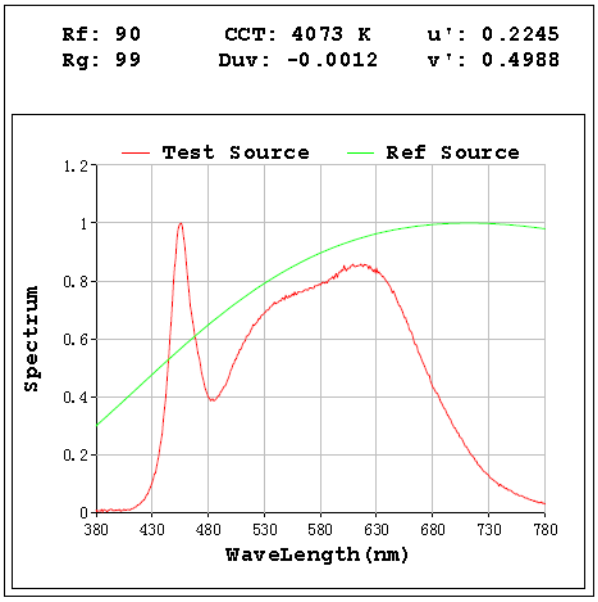
Photometric Measurement – Goniophotometer Method:

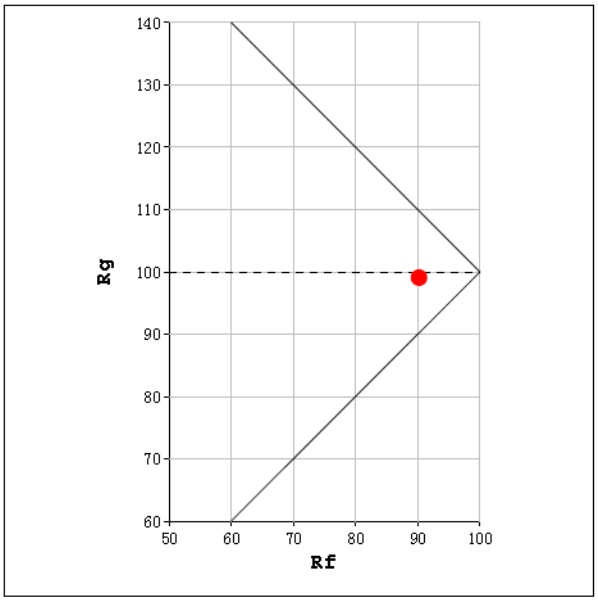
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	968.0
Luminous Efficacy (lm/W)	78.7
Beam Angle (°)	110.7
Center Beam Candle Power (cd)	349.0

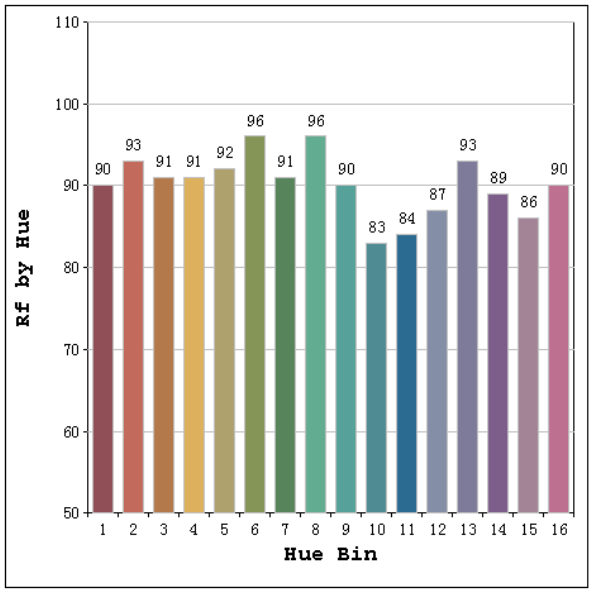
Spectral Power Distribution & Chromaticity Diagram

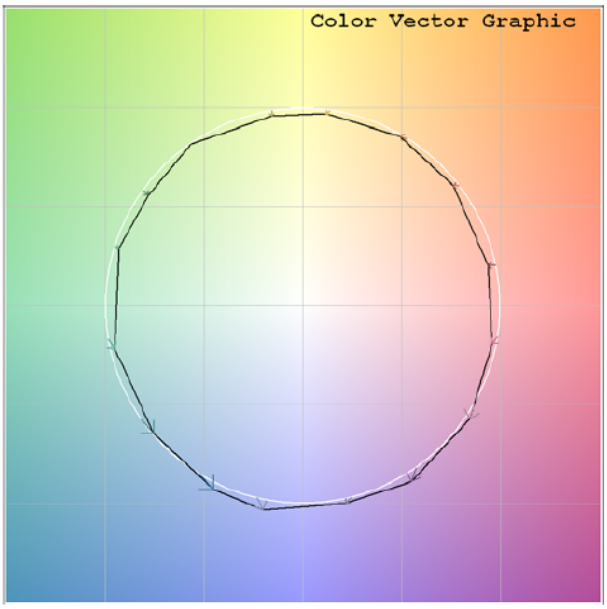


TM30







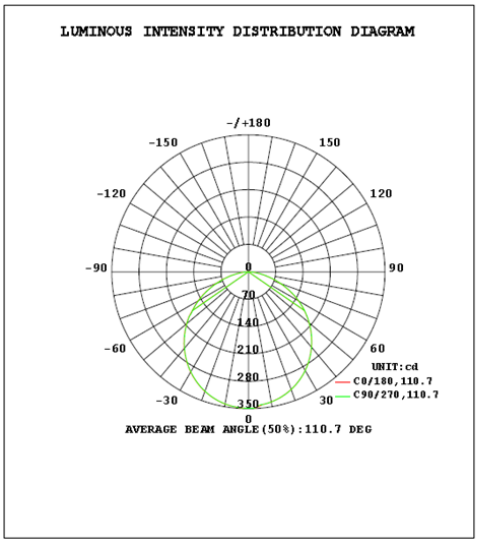


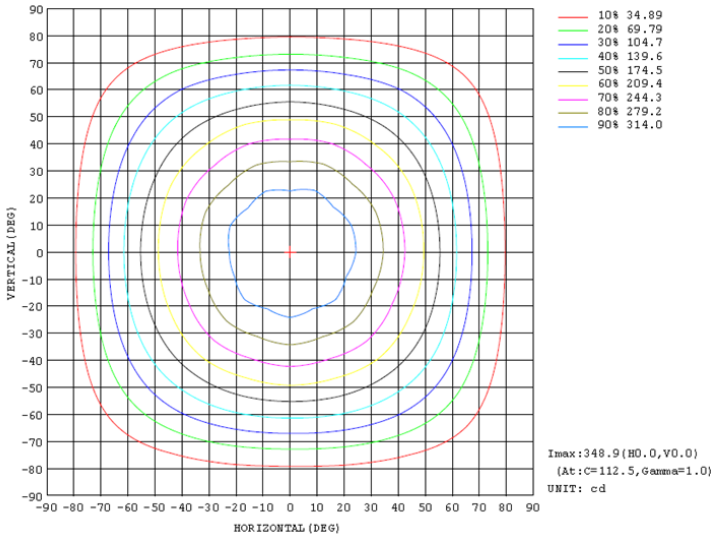
Zonal Lumen Tabulation

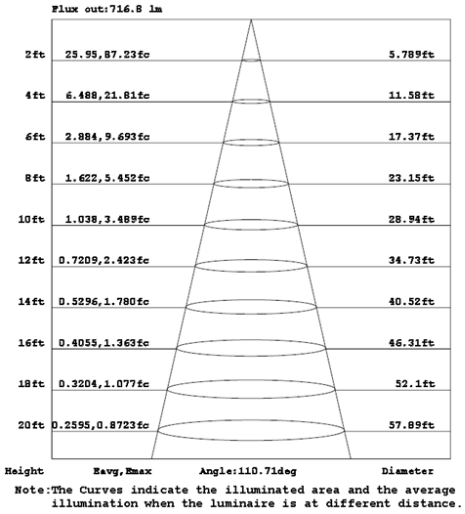
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	269.4	27.8%
0-40	441.1	45.6%
0-60	776.1	80.2%
60-90	191.9	19.8%
70-100	74.6	7.7%
90-120	0.0	0.0%
0-90	968.0	100.0%
90-180	0.0	0.0%
0-180	968.0	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	32.8	3.4%	90-100	0.0	0.0%
10-20	94.0	9.7%	100-110	0.0	0.0%
20-30	142.6	14.7%	110-120	0.0	0.0%
30-40	171.7	17.7%	120-130	0.0	0.0%
40-50	177.2	18.3%	130-140	0.0	0.0%
50-60	157.9	16.3%	140-150	0.0	0.0%
60-70	117.3	12.1%	150-160	0.0	0.0%
70-80	62.1	6.4%	160-170	0.0	0.0%
80-90	12.6	1.3%	170-180	0.0	0.0%

Photometric Data







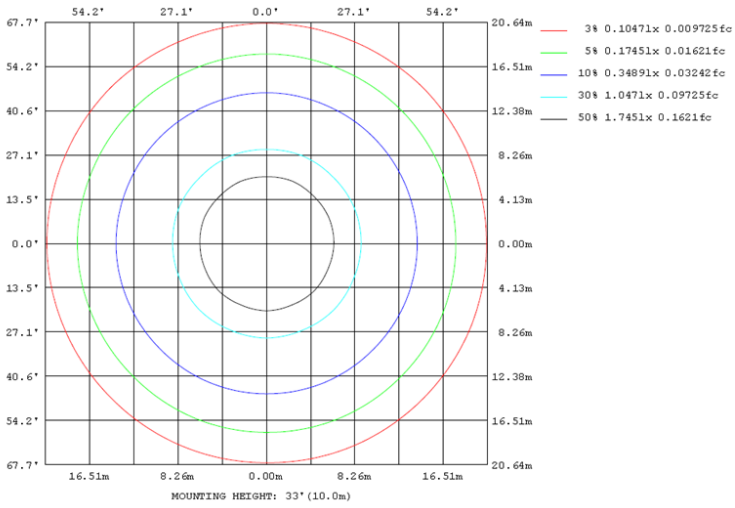


Table--1 UNIT: cd

C(DEG) / γ (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	349	349	349	349	349	349	349	349	349	349	349	349	349	349	349	349			
5	347	344	347	341	347	342	347	342	344	347	342	347	342	347	341	348			
10	343	338	343	338	343	338	343	338	338	343	338	343	338	343	338	343			
15	336	331	336	330	335	331	336	330	330	335	330	335	331	336	331	336			
20	325	320	325	320	325	320	325	320	320	325	320	325	320	326	321	326			
25	312	307	311	307	312	307	312	307	307	311	306	311	307	313	308	313			
30	296	291	295	291	295	291	295	291	291	295	291	295	291	296	292	297			
35	277	273	276	272	276	272	276	272	272	276	272	276	273	277	273	278			
40	256	252	255	252	255	251	254	250	251	255	251	255	252	256	252	256			
45	232	229	232	228	232	228	230	227	228	231	228	231	229	232	229	232			
50	207	204	206	203	206	202	204	202	203	205	203	206	204	206	204	207			
55	177	177	176	177	176	176	174	175	176	175	176	176	177	176	177	177			
60	149	149	149	149	148	147	146	147	148	147	148	148	149	148	149	149			
65	119	120	120	119	117	118	117	117	118	118	120	118	119	119	121	120			
70	88.1	89.5	89.8	88.7	86.6	87.0	87.0	86.5	87.3	87.2	89.6	87.6	88.2	88.0	90.8	89.2			
75	58.8	60.0	58.8	59.3	57.4	57.8	56.2	57.2	57.9	57.8	58.4	58.3	58.9	58.6	59.7	59.8			
80	32.4	32.9	31.2	32.1	31.1	31.0	29.0	30.2	31.5	30.9	30.9	31.3	32.4	32.0	32.1	32.7			
85	10.8	10.6	9.43	9.97	9.74	9.13	7.91	8.55	9.93	9.02	9.18	9.35	10.8	9.95	10.2	10.5			
90	0.39	0.39	0.39	0.38	0.38	0.38	0.38	0.38	0.36	0.37	0.37	0.38	0.36	0.39	0.38	0.39			

2.1.5 Electrical, Photometric and Chromaticity Measurements

Test date	2022-07-18	Test Ambient:	25.3 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DLW0090(WFRL6S139FA120WS)	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202207120058	120.0	60	0.106	12.50	0.986

Chromaticity Measurement - Sphere-Spectroradiometer Method:

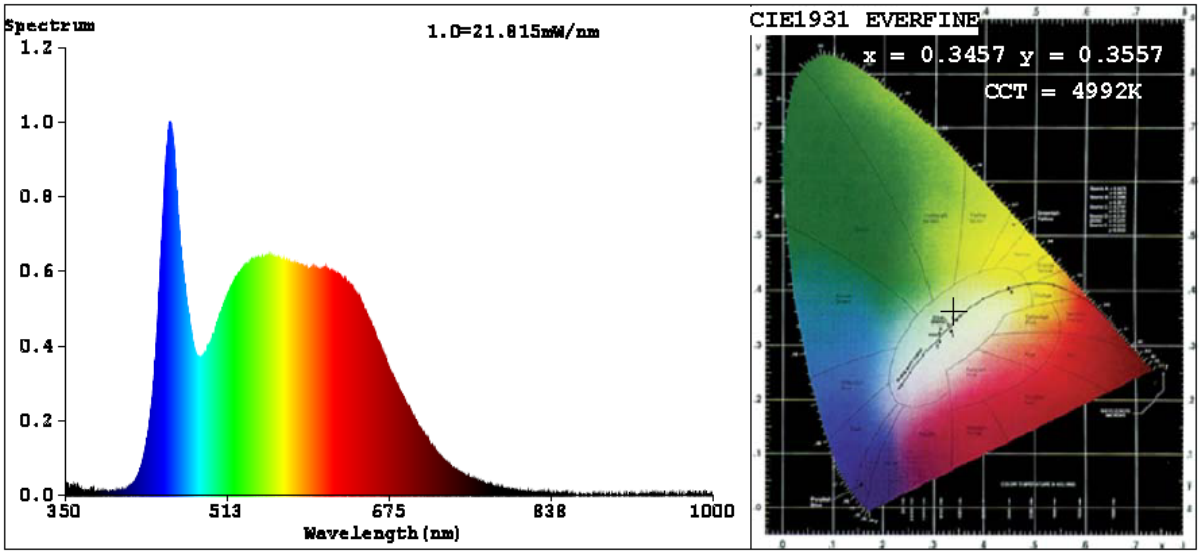
Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
CCT (K)	4992
Duv	0.0018
Chromaticity (x, y)	x=0.3457 y=0.3557
Chromaticity (u', v')	u'=0.2103 v'=0.4867
Color Rendering Index (CRI)	92.3
R9	70

Special Color Rendering Indices			
R1	93	R9	70
R2	96	R10	88
R3	96	R11	89
R4	90	R12	64
R5	90	R13	94
R6	91	R14	97
R7	95	R15	91
R8	88	--	--

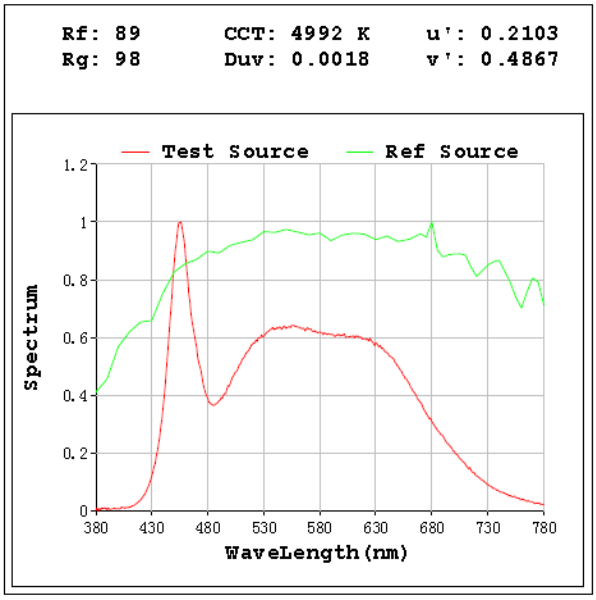
Photometric Measurement – Goniophotometer Method:

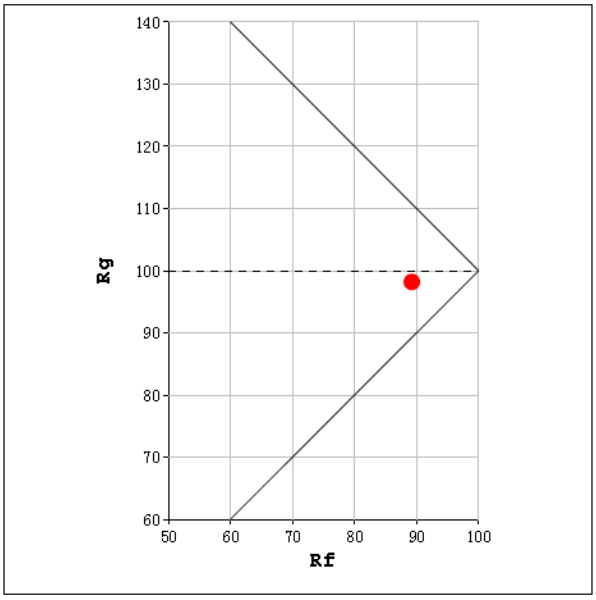
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	944.9
Luminous Efficacy (lm/W)	75.59
Beam Angle (°)	111.8
Center Beam Candle Power (cd)	337.0

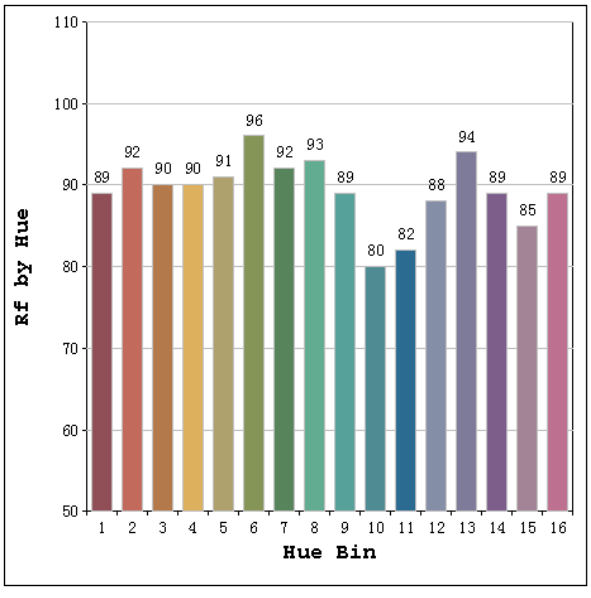
Spectral Power Distribution & Chromaticity Diagram

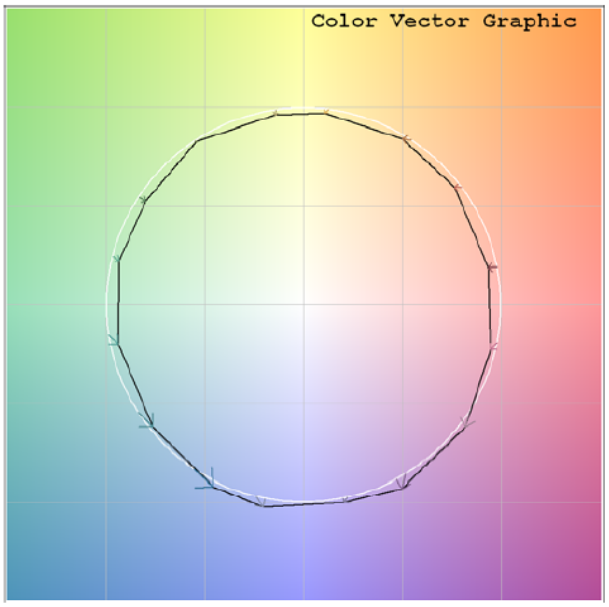


TM30







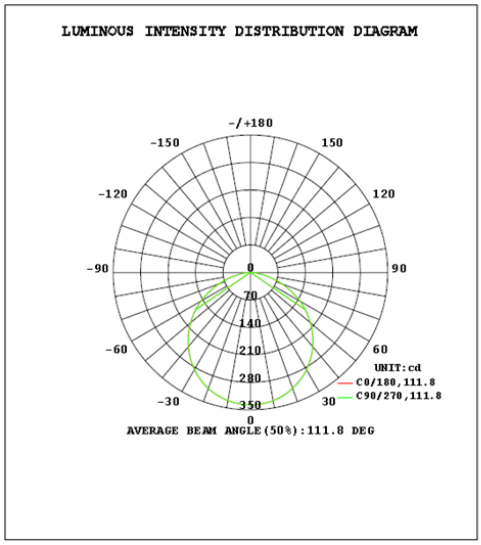


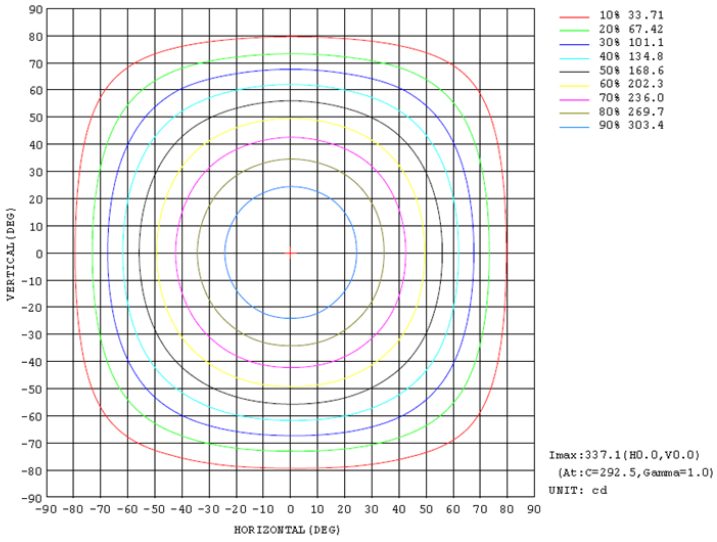
Zonal Lumen Tabulation

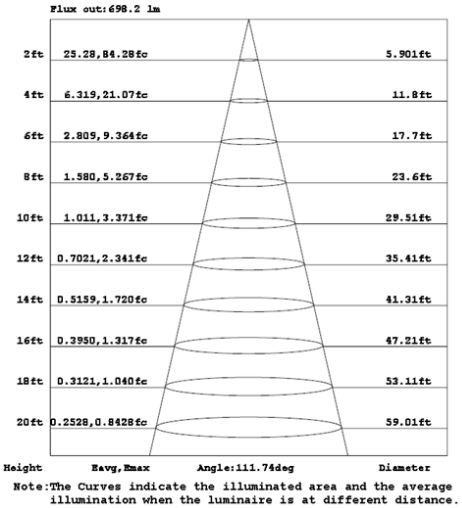
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	262.3	27.8%
0-40	429.4	45.5%
0-60	756.4	80.1%
60-90	188.5	19.9%
70-100	73.3	7.8%
90-120	0.0	0.0%
0-90	944.9	100.0%
90-180	0.0	0.0%
0-180	944.9	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	31.9	3.4%	90-100	0.0	0.0%
10-20	91.6	9.7%	100-110	0.0	0.0%
20-30	138.9	14.7%	110-120	0.0	0.0%
30-40	167.1	17.7%	120-130	0.0	0.0%
40-50	172.5	18.3%	130-140	0.0	0.0%
50-60	154.5	16.3%	140-150	0.0	0.0%
60-70	115.2	12.2%	150-160	0.0	0.0%
70-80	61.0	6.5%	160-170	0.0	0.0%
80-90	12.3	1.3%	170-180	0.0	0.0%

Photometric Data







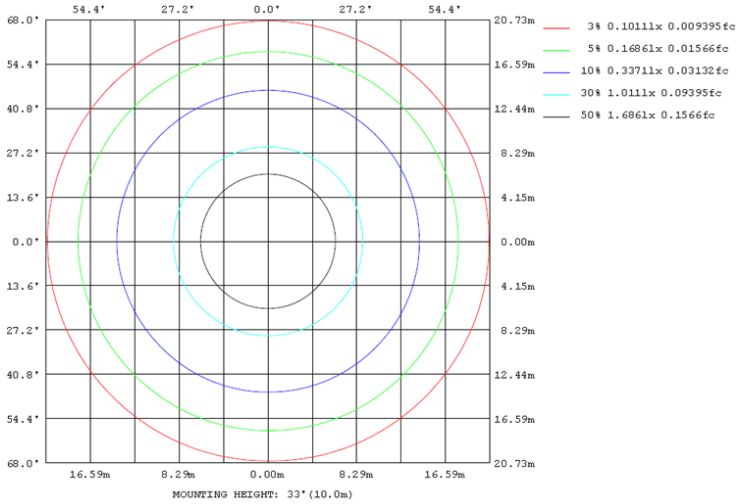
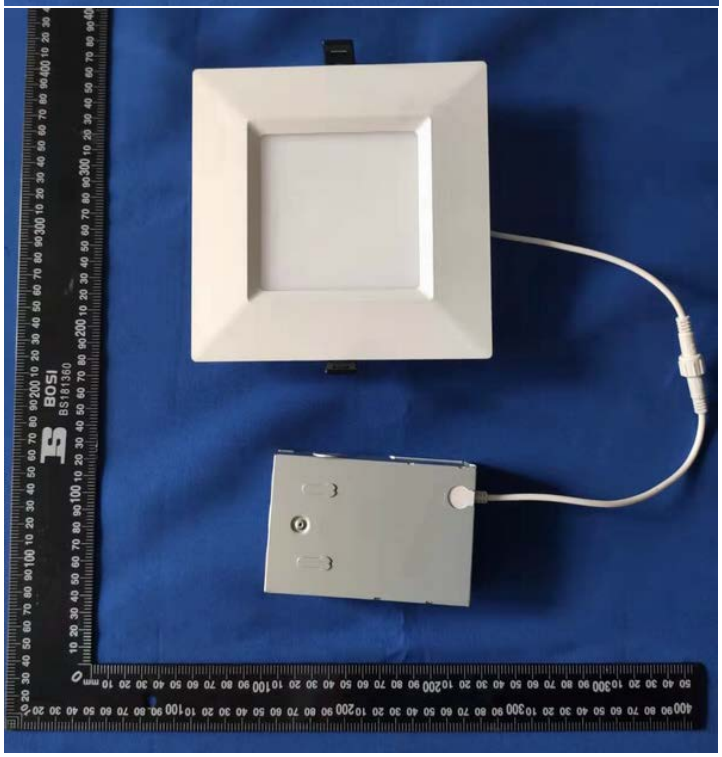


Table--1 UNIT: cd

C(DEG) / γ (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	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337			
5	336	336	336	336	336	336	335	336	336	335	335	336	336	336	336	336			
10	332	332	331	332	331	331	331	331	331	331	331	331	332	332	332	332			
15	324	325	324	324	324	324	324	324	324	324	324	324	324	325	325	325			
20	314	315	314	314	314	314	314	314	314	314	314	314	315	315	315	315			
25	302	302	301	301	301	301	301	301	301	301	301	301	302	302	303	302			
30	286	286	285	286	285	286	285	285	285	285	285	285	286	286	287	287			
35	268	268	267	268	267	267	266	267	267	266	267	267	268	268	269	268			
40	247	247	246	247	246	246	245	246	246	246	246	246	247	247	248	248			
45	224	225	224	224	223	223	222	222	224	223	223	223	224	224	225	225			
50	200	200	199	200	199	198	197	198	199	198	199	199	200	199	200	200			
55	174	174	173	174	172	172	171	171	173	172	173	173	174	173	174	174			
60	146	147	146	146	145	145	143	144	145	145	146	145	147	146	147	147			
65	117	118	118	117	115	115	115	115	116	116	118	116	117	116	119	118			
70	86.6	88.0	88.2	87.1	85.0	85.4	85.2	84.8	85.5	85.5	87.9	86.1	86.7	86.4	89.3	87.7			
75	57.8	59.1	57.8	58.3	56.3	56.6	55.1	56.1	56.7	56.6	57.4	57.2	57.8	57.7	58.7	58.8			
80	31.9	32.4	30.7	31.6	30.5	30.4	28.4	29.7	30.9	30.3	30.3	30.7	31.9	31.4	31.5	32.2			
85	10.7	10.4	9.30	9.81	9.56	8.94	7.76	8.37	9.71	8.83	8.99	9.21	10.6	9.80	10.0	10.3			
90	0.38	0.38	0.39	0.37	0.38	0.38	0.38	0.38	0.37	0.36	0.37	0.36	0.35	0.37	0.37	0.39			

3. Product Photo



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