

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):
DISK34-6

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

**Type of
Luminaire:** Downlights

Report Date: 2023-04-18

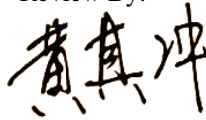
Prepared By:

Test & Report By:



Engineer: Sun Fangfang

Review By:



Manager: Huang Qichong

1.1 Rated Values:	
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	15.0 W
Rated Initial Lamp Lumen	1000 lm
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

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

Test date	2023-04-18	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK34-6	2700K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202304150007	120.0	60	0.135	14.90	0921

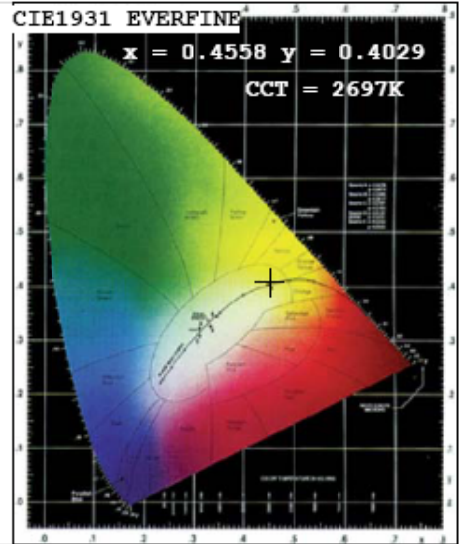
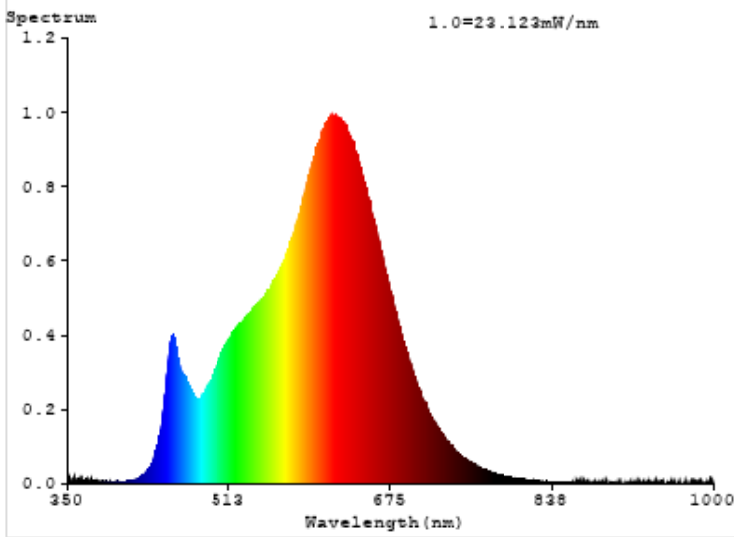
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	96	R9	60
Frequency (Hz)	60	R2	99	R10	98
CCT (K)	2697	R3	95	R11	98
Duv	-0.0025	R4	95	R12	86
Chromaticity (x, y)	x=0.4558 y=0.4029	R5	97	R13	98
Chromaticity (u', v')	u'=0.2634 v'=0.5238	R6	94	R14	98
Color Rendering Index (CRI)	92.9	R7	88	R15	91
R9	60	R8	80	--	--

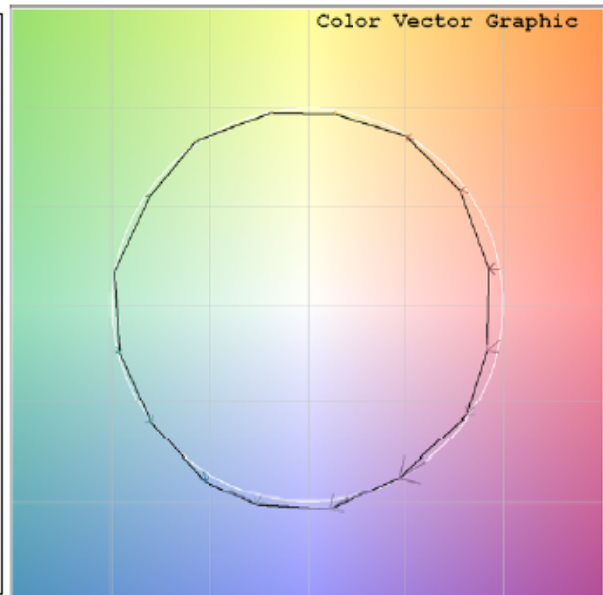
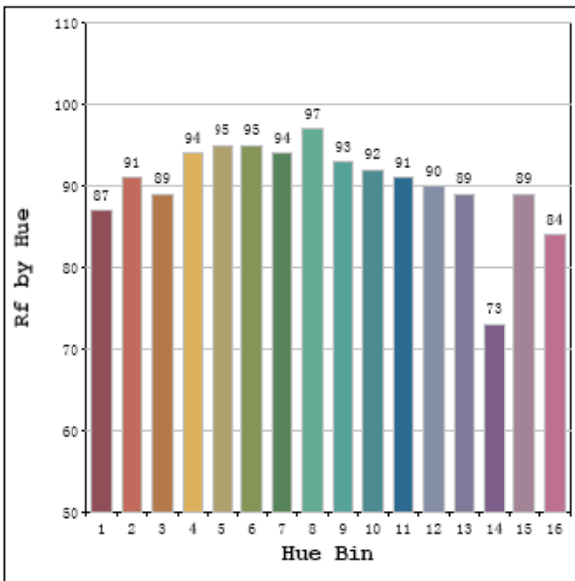
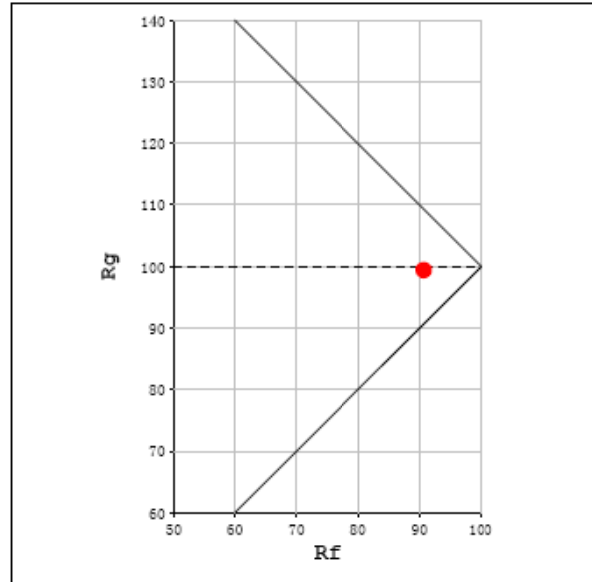
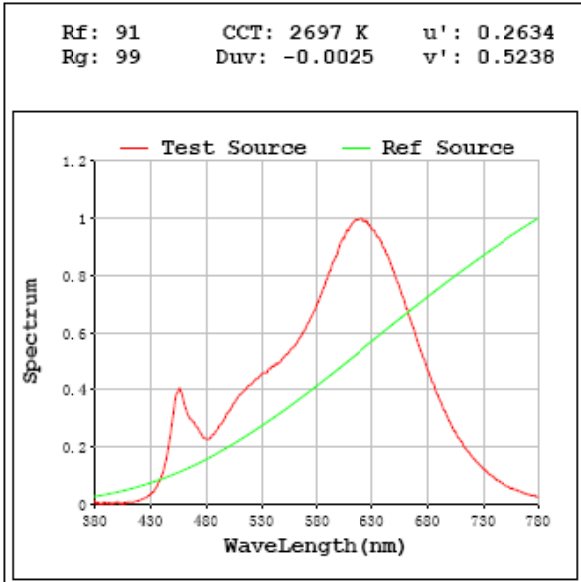
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1017.4
Luminous Efficacy (lm/W)	68.28
Beam Angle (°)	112.5
Center Beam Candle Power (cd)	339.6

Spectral Power Distribution & Chromaticity Diagram



TM30

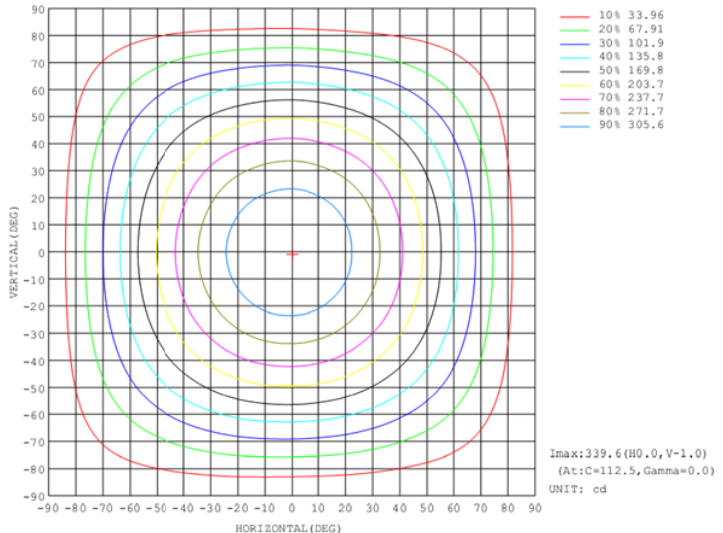
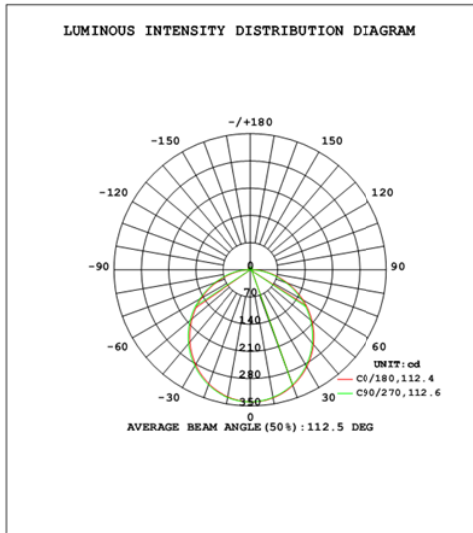


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	262.6	25.8%
0-40	429.4	42.2%
0-60	760.0	74.7%
60-90	225.9	22.2%
70-100	108.4	10.7%
90-120	11.3	1.1%
0-90	985.9	96.9%
90-180	31.5	3.1%
0-180	1017.4	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	32.1	3.2%	90-100	5.0	0.5%
10-20	91.8	9.0%	100-110	2.5	0.2%
20-30	138.7	13.6%	110-120	3.8	0.4%
30-40	166.8	16.4%	120-130	4.9	0.5%
40-50	173.2	17.0%	130-140	5.2	0.5%
50-60	157.5	15.5%	140-150	4.7	0.5%
60-70	122.5	12.0%	150-160	3.4	0.3%
70-80	74.8	7.4%	160-170	1.6	0.2%
80-90	28.6	2.8%	170-180	0.4	0.0%

Photometric Data



Height	Eavg, Emax	Angle: 112.40deg	Diameter
2ft	24.02, 84.91fc		5.975ft
4ft	6.004, 21.23fc		11.95ft
6ft	2.669, 9.435fc		17.93ft
8ft	1.501, 5.307fc		23.9ft
10ft	0.9607, 3.396fc		29.88ft
12ft	0.6672, 2.359fc		35.85ft
14ft	0.4902, 1.733fc		41.83ft
16ft	0.3753, 1.327fc		47.8ft
18ft	0.2965, 1.048fc		53.78ft
20ft	0.2402, 0.8491fc		59.75ft

Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

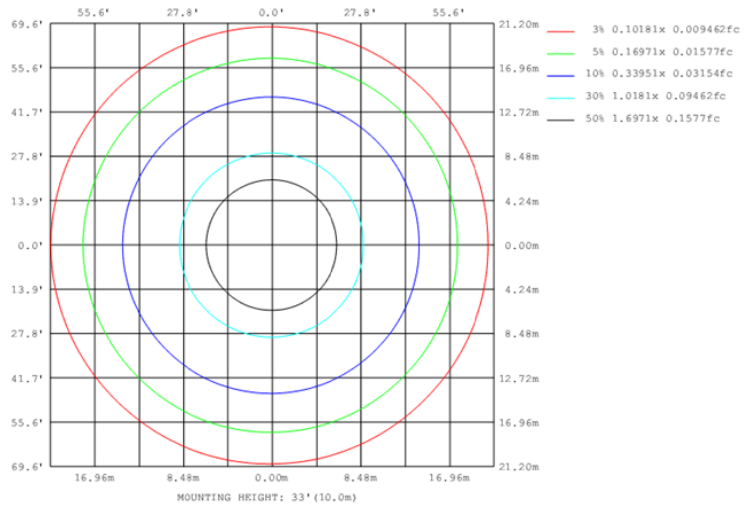


Table--1

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	339	339	340	339	340	340	339	339	339	339	340	339	340	340	339	339			
5	337	337	338	338	338	338	338	338	338	338	338	338	338	337	338	337			
10	332	332	332	333	333	334	334	334	334	334	334	333	333	332	332	332			
15	323	324	324	325	325	327	327	327	327	326	326	325	325	324	324	324			
20	312	313	313	315	315	316	316	317	317	316	316	315	314	313	313	312			
25	298	299	299	301	301	303	303	303	304	303	302	301	301	299	299	299			
30	281	282	283	285	286	287	287	288	288	287	287	285	285	283	283	282			
35	263	264	265	267	267	269	269	270	270	269	269	267	266	265	264	264			
40	242	243	244	246	247	249	249	250	251	249	249	247	246	244	244	243			
45	220	221	222	224	226	227	227	228	229	227	227	225	224	222	222	221			
50	196	197	198	201	202	204	204	205	206	204	204	202	201	198	198	197			
55	171	172	173	176	177	179	179	181	181	180	179	177	176	174	173	172			
60	145	146	147	150	151	154	154	155	156	154	153	151	150	148	147	146			
65	118	120	121	123	125	127	127	128	129	127	127	124	123	121	120	119			
70	91.1	92.8	93.8	96.4	97.8	100	101	102	102	101	100.0	97.6	96.4	94.2	93.6	92.2			
75	65.1	66.8	67.6	70.3	71.5	73.8	74.2	75.2	75.8	74.2	73.5	71.1	70.1	67.8	67.2	66.0			
80	41.0	42.6	43.5	45.9	47.1	49.2	49.4	50.3	50.9	49.3	48.6	46.3	45.3	43.2	42.8	41.7			
85	21.2	22.4	23.2	25.2	26.2	27.8	28.0	28.7	29.0	27.5	27.0	25.1	24.3	22.6	22.3	21.5			
90	8.49	9.21	9.70	10.8	11.4	12.4	12.5	12.8	12.9	12.0	11.6	10.5	10.00	9.13	9.00	8.65			
95	2.92	3.16	3.32	3.71	3.84	4.20	4.17	4.32	4.30	3.95	3.81	3.46	3.36	3.15	3.12	2.99			
100	1.97	1.81	1.88	1.92	2.08	2.15	2.15	2.13	2.00	1.87	1.84	1.95	2.09	2.10	2.12	2.02			
105	2.65	2.21	2.15	2.22	2.38	2.47	2.32	2.44	2.32	2.13	2.08	2.29	2.48	2.48	2.54	2.59			
110	3.48	2.90	2.87	2.87	2.97	2.88	2.95	3.10	3.04	2.79	2.82	2.99	3.05	3.02	3.21	3.21			
115	4.30	3.71	3.81	3.72	3.69	3.62	3.63	3.93	4.01	3.59	3.85	3.81	3.70	3.63	3.86	3.76			
120	5.33	4.65	4.99	4.71	4.61	4.39	4.46	4.80	4.71	4.60	4.91	4.90	4.50	4.41	4.45	4.63			
125	6.12	5.47	5.45	5.51	5.32	5.17	5.23	5.40	5.77	5.54	5.59	5.65	5.30	5.23	4.92	5.20			
130	7.19	6.28	6.32	6.02	5.98	5.67	5.78	5.99	6.91	6.62	7.06	6.47	6.11	5.86	5.51	5.73			
135	7.24	6.74	6.93	6.43	6.63	6.12	6.44	6.60	7.47	7.25	7.88	7.18	6.82	6.50	6.10	6.18			
140	7.93	6.99	7.59	6.66	7.05	6.42	7.07	6.75	7.87	7.64	8.77	7.58	7.40	6.89	6.55	6.22			
145	8.57	7.39	8.38	6.89	7.53	6.66	6.72	6.77	8.70	8.05	9.53	7.87	8.09	7.00	6.05	6.21			
150	8.57	9.23	8.37	7.07	7.46	6.73	5.77	6.87	8.89	9.42	10.3	8.10	8.69	7.20	5.22	5.95			
155	7.51	8.03	7.26	6.07	7.52	5.99	5.17	6.35	8.70	9.58	8.94	8.30	8.94	6.47	4.81	5.51			
160	5.67	7.02	8.20	8.92	6.20	4.66	5.12	5.34	7.87	8.73	8.31	9.87	7.58	4.56	4.66	5.00			
165	4.87	4.88	5.61	5.44	4.41	4.35	4.96	5.23	5.24	6.02	6.78	5.96	5.00	3.91	4.14	4.85			
170	4.44	4.48	4.25	4.03	4.15	4.22	4.33	4.76	4.99	4.88	4.74	4.52	4.22	3.82	4.05	4.13			
175	3.77	3.73	3.68	3.77	3.93	3.96	3.95	3.82	3.89	3.85	3.77	3.78	3.68	3.73	3.89	3.91			
180	3.70	3.71	3.68	3.69	3.69	3.68	3.68	3.70	3.68	3.68	3.68	3.70	3.69	3.69	3.70	3.69			

Test date	2023-04-18	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK34-6	3000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202304180007	120.0	60	0.134	14.90	0.924

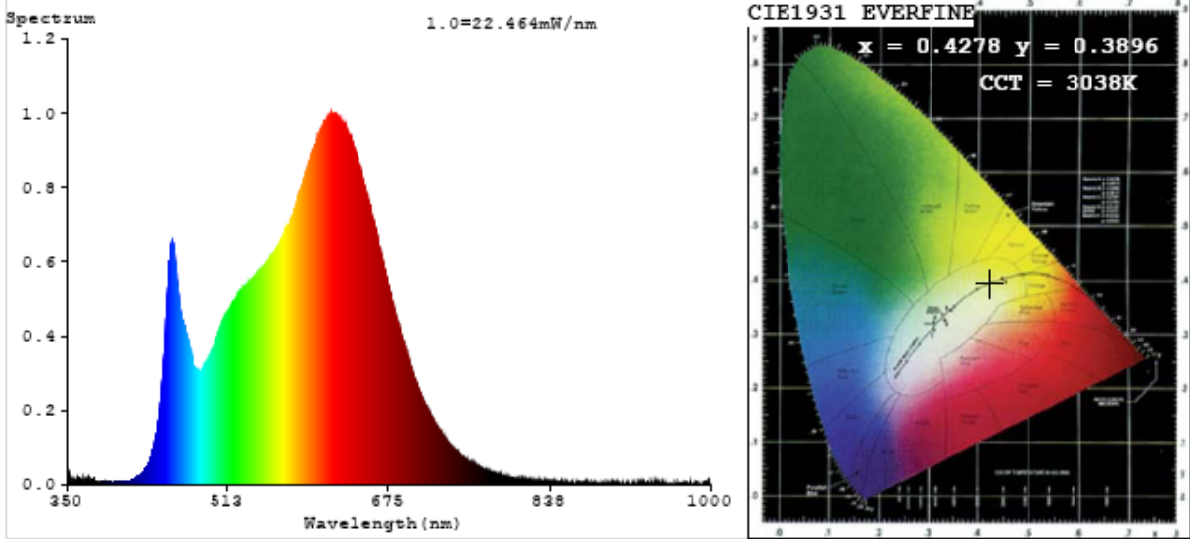
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	71
Frequency (Hz)	60	R2	97	R10	96
CCT (K)	3038	R3	95	R11	98
Duv	-0.0046	R4	96	R12	82
Chromaticity (x, y)	x=0.4278 y=0.3896	R5	98	R13	99
Chromaticity (u', v')	u'=0.2509 v'=0.5142	R6	93	R14	99
Color Rendering Index (CRI)	94.0	R7	90	R15	95
R9	71	R8	85	--	--

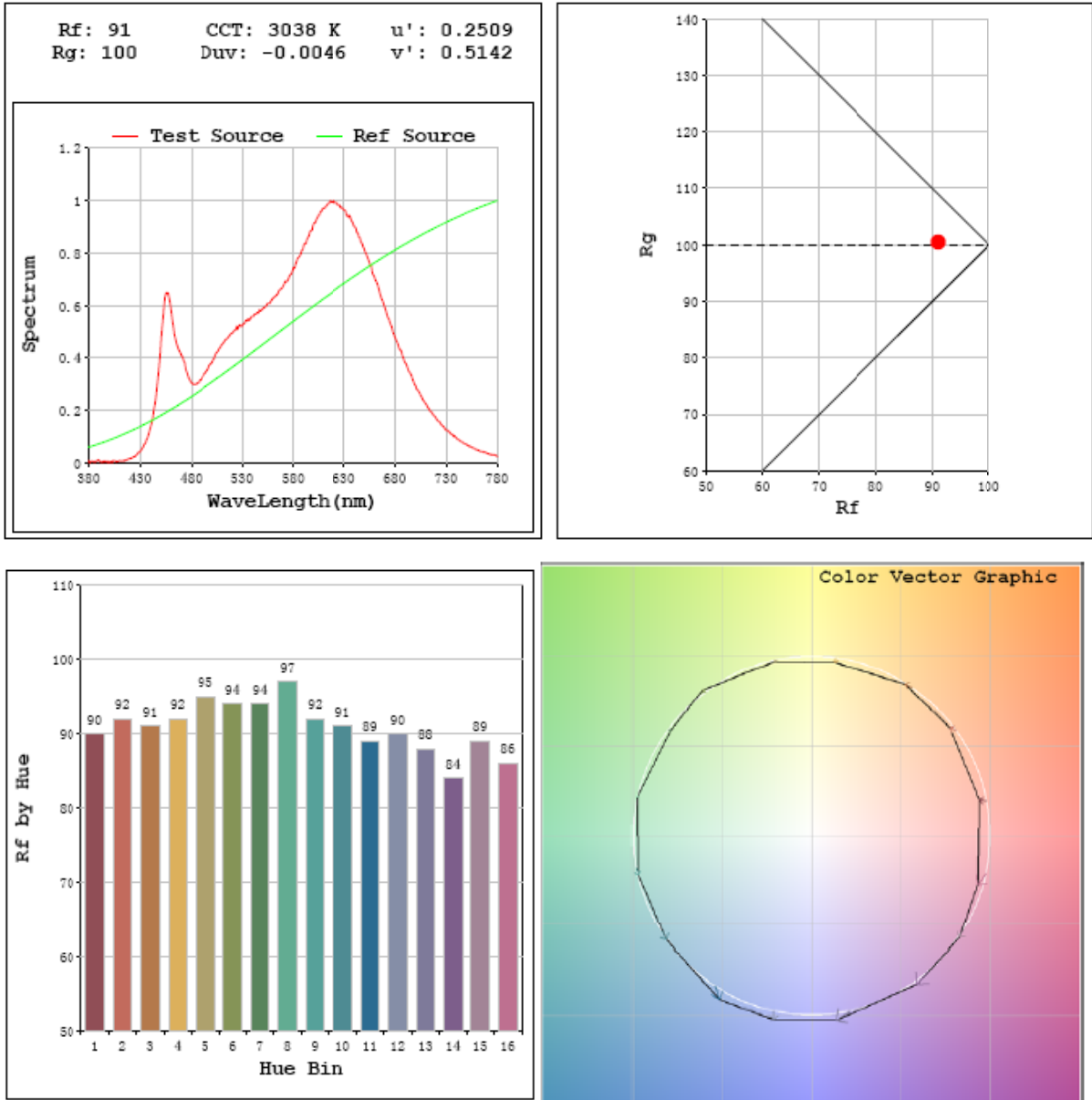
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1076.6
Luminous Efficacy (lm/W)	72.26
Beam Angle (°)	112.6
Center Beam Candle Power (cd)	358.8

Spectral Power Distribution & Chromaticity Diagram



TM30

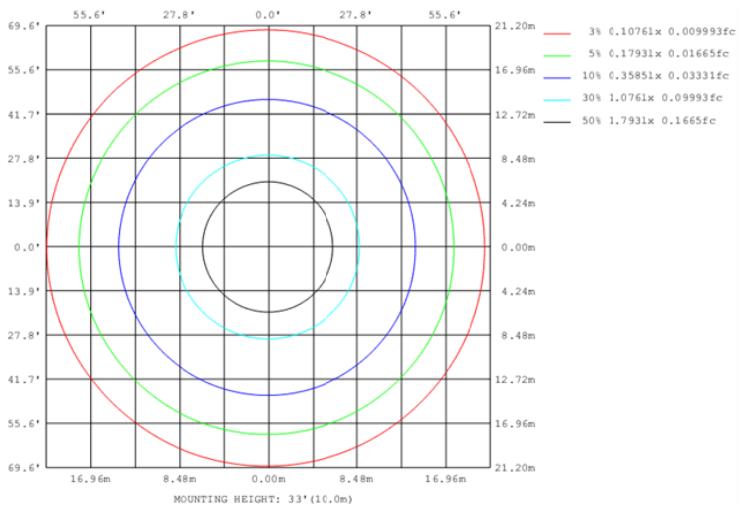
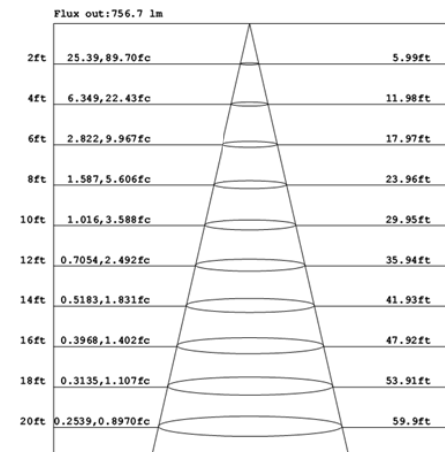
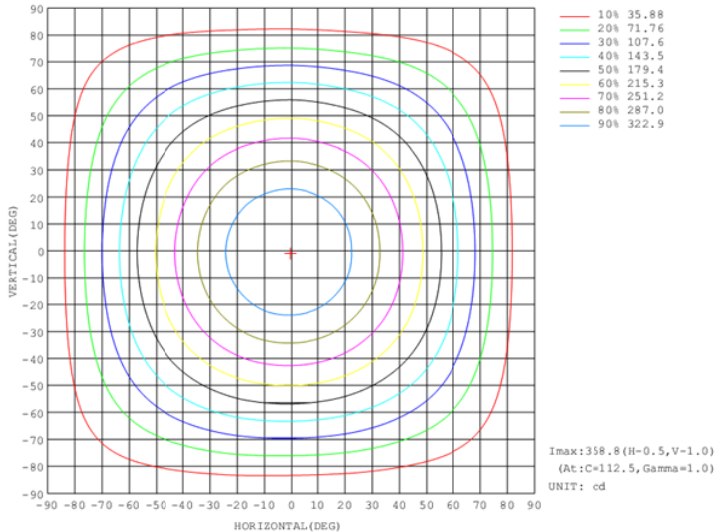
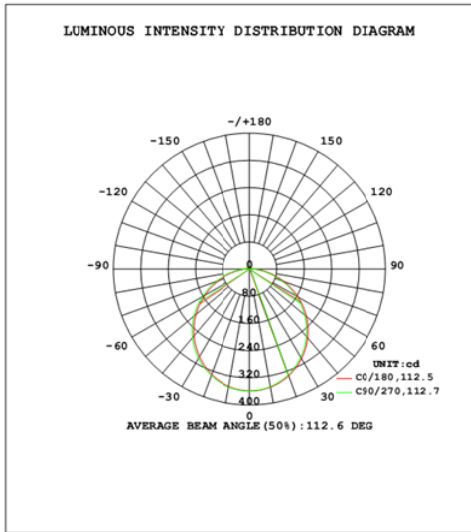


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	277.5	25.8%
0-40	453.9	42.2%
0-60	803.6	74.6%
60-90	239.3	22.2%
70-100	115.2	10.7%
90-120	12.3	1.1%
0-90	1043.0	96.9%
90-180	33.7	3.1%
0-180	1076.6	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	33.9	3.2%	90-100	5.4	0.5%
10-20	97.0	9.0%	100-110	2.8	0.3%
20-30	146.6	13.6%	110-120	4.0	0.4%
30-40	176.4	16.4%	120-130	5.2	0.5%
40-50	183.2	17.0%	130-140	5.5	0.5%
50-60	166.6	15.5%	140-150	5.0	0.5%
60-70	129.6	12.0%	150-160	3.6	0.3%
70-80	79.3	7.4%	160-170	1.7	0.2%
80-90	30.5	2.8%	170-180	0.4	0.0%

Photometric Data



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359				
5	356	357	357	357	357	358	358	358	358	357	357	357	357	357	357	356				
10	351	351	352	352	353	353	353	353	353	352	352	352	351	351	351	351				
15	342	343	343	344	345	345	345	346	345	345	344	343	343	342	342	342				
20	330	331	332	333	334	334	334	335	335	333	333	332	331	330	330	330				
25	315	316	317	319	320	321	321	321	321	319	319	317	317	316	316	315				
30	298	299	300	302	303	305	304	304	304	303	302	300	300	298	298	298				
35	278	280	281	283	284	286	285	286	285	284	283	281	280	279	279	278				
40	256	258	260	262	263	265	265	265	264	262	262	259	259	257	257	257				
45	233	235	236	239	240	242	242	242	242	240	238	236	235	234	233	233				
50	208	210	211	214	216	217	217	217	217	215	214	211	210	208	208	208				
55	181	184	185	188	190	191	191	191	191	189	188	185	184	182	182	181				
60	154	156	158	161	162	164	164	164	164	161	160	158	156	154	154	154				
65	125	128	130	133	134	136	136	136	136	134	132	129	128	126	126	126				
70	97.0	99.6	101	104	106	108	108	108	108	105	104	101	99.9	97.8	97.8	97.3				
75	69.4	71.9	73.5	76.6	77.8	79.9	79.7	80.0	80.0	77.4	76.1	73.2	72.1	70.0	70.2	69.5				
80	44.0	46.3	47.7	50.5	51.8	53.7	53.5	53.8	53.6	51.2	49.9	47.2	46.2	44.2	44.4	44.0				
85	22.9	24.7	25.9	28.2	29.2	30.9	30.6	30.8	30.5	28.4	27.4	25.2	24.5	23.0	23.1	22.8				
90	9.33	10.3	11.0	12.3	12.9	14.0	13.9	13.9	13.6	12.4	11.8	10.6	10.1	9.41	9.43	9.27				
95	3.21	3.50	3.68	4.15	4.29	4.71	4.68	4.78	4.71	4.23	4.07	3.77	3.72	3.51	3.47	3.27				
100	2.12	1.85	1.84	1.85	2.04	2.13	2.24	2.32	2.28	2.22	2.28	2.44	2.58	2.54	2.47	2.24				
105	2.85	2.24	2.10	2.15	2.32	2.39	2.33	2.58	2.62	2.53	2.58	2.86	3.02	2.94	2.89	2.88				
110	3.72	2.95	2.89	2.92	3.08	2.93	3.05	3.28	3.38	3.20	3.32	3.55	3.57	3.46	3.55	3.53				
115	4.56	3.90	4.01	3.93	3.93	3.81	3.84	4.16	4.27	3.81	4.12	4.17	4.04	3.88	4.08	4.00				
120	5.66	4.91	5.21	4.98	4.92	4.63	4.73	5.12	5.00	4.87	5.19	5.26	4.84	4.98	4.94	4.97				
125	6.55	5.78	5.69	5.80	5.71	5.48	5.52	5.78	6.09	5.87	5.90	6.07	5.68	5.59	5.17	5.58				
130	7.52	6.62	6.59	6.35	6.47	5.99	6.13	6.46	7.23	6.95	7.31	6.91	6.54	6.24	5.85	6.20				
135	7.57	7.10	7.23	6.83	7.12	6.43	6.80	7.17	7.78	7.61	8.17	7.67	7.36	6.89	6.49	6.74				
140	8.28	7.40	7.85	7.13	7.61	6.76	7.43	7.35	8.27	8.04	9.02	8.08	7.92	7.27	6.95	6.85				
145	8.95	7.80	8.69	7.37	8.05	7.09	7.09	7.36	9.03	8.47	9.74	8.46	8.47	7.50	6.48	6.79				
150	9.30	9.36	8.88	7.52	8.05	7.20	6.14	7.48	9.45	9.70	10.6	8.58	9.12	7.84	5.68	6.37				
155	8.10	8.73	7.99	8.29	8.23	6.42	5.57	6.87	9.27	10.1	9.66	8.70	9.30	7.07	5.17	5.97				
160	6.12	7.44	8.31	9.16	6.84	4.96	5.54	5.72	8.39	9.37	8.75	10.1	8.09	4.94	4.99	5.33				
165	5.21	5.26	6.18	6.01	4.68	4.63	5.28	5.57	5.61	6.50	7.23	6.39	5.33	4.16	4.40	5.20				
170	4.74	4.79	4.53	4.26	4.40	4.48	4.61	5.06	5.32	5.22	5.07	4.80	4.49	4.05	4.30	4.39				
175	3.97	3.95	3.90	4.00	4.17	4.19	4.19	4.06	4.14	4.08	4.00	4.00	3.91	3.96	4.10	4.14				
180	3.91	3.92	3.91	3.90	3.90	3.89	3.90	3.91	3.90	3.90	3.88	3.90	3.90	3.90	3.90	3.91				

2.1.2 Electrical, Photometric and Chromaticity Measurements

Test date	2023-04-18	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK34-6	3500K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202304180007	120.0	60	0.131	14.70	0.930

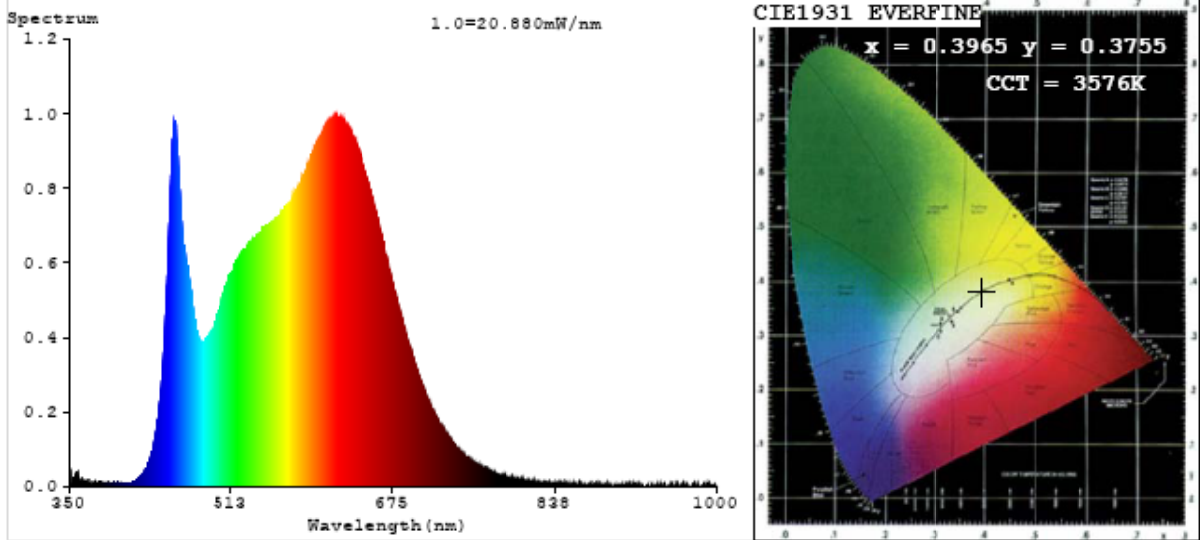
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	81
Frequency (Hz)	60	R2	98	R10	97
CCT (K)	3576	R3	97	R11	97
Duv	-0.0048	R4	96	R12	78
Chromaticity (x, y)	x=0.3965 y=0.3755	R5	97	R13	98
Chromaticity (u', v')	u'=0.2362 v'=0.5034	R6	94	R14	100
Color Rendering Index (CRI)	95.3	R7	93	R15	97
R9	81	R8	90	--	--

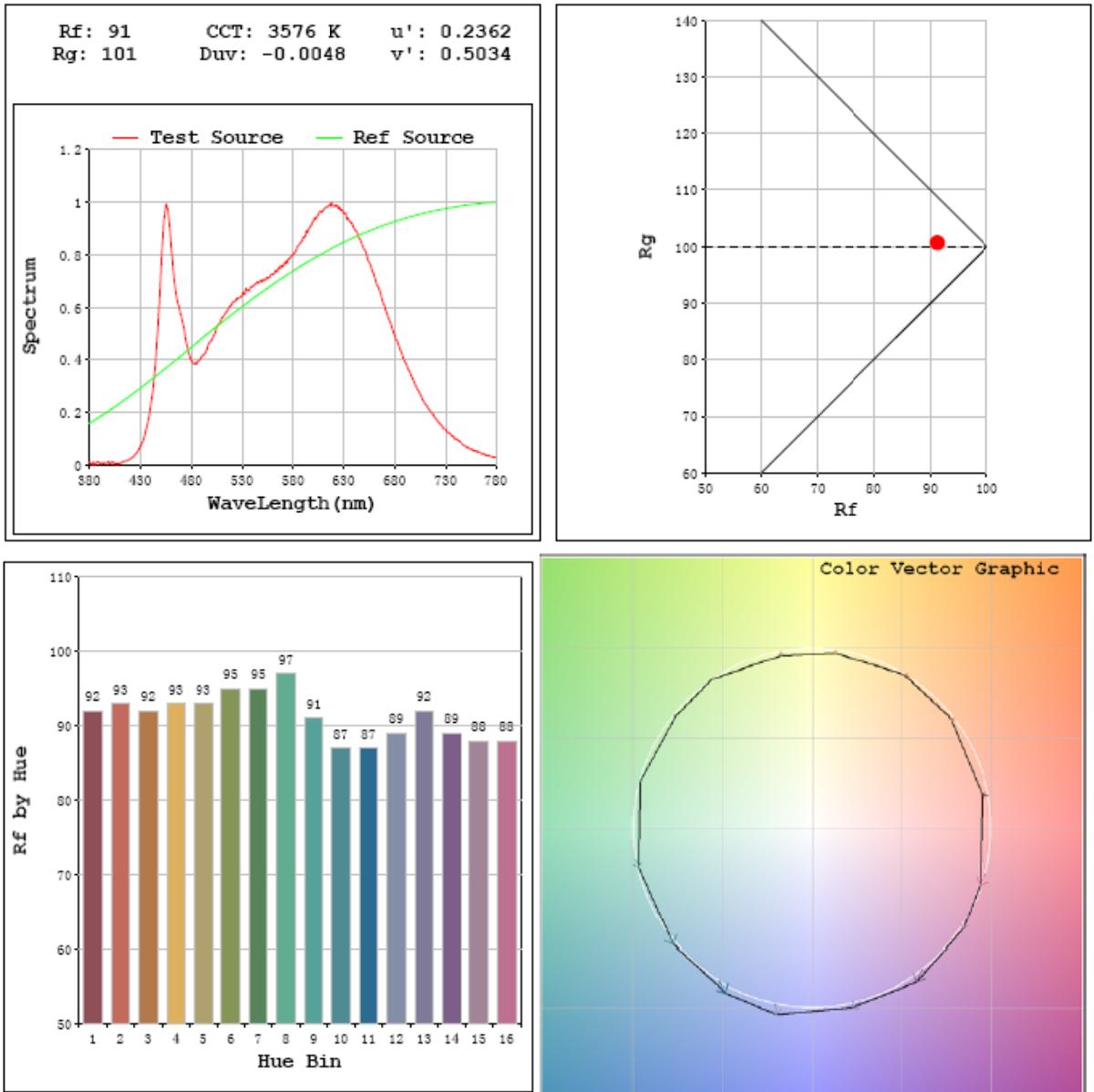
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1128.1
Luminous Efficacy (lm/W)	76.74
Beam Angle (°)	111.8
Center Beam Candle Power (cd)	380.1

Spectral Power Distribution & Chromaticity Diagram



TM30



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	291.8	25.9%
0-40	477.0	42.3%
0-60	843.6	74.8%
60-90	249.1	22.1%
70-100	120.0	10.6%
90-120	12.9	1.1%
0-90	1092.8	96.9%
90-180	35.3	3.1%
0-180	1128.1	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	35.9	3.2%	90-100	5.7	0.5%
10-20	102.1	9.0%	100-110	2.9	0.3%
20-30	153.8	13.6%	110-120	4.2	0.4%
30-40	185.2	16.4%	120-130	5.5	0.5%
40-50	192.3	17.0%	130-140	5.8	0.5%
50-60	174.4	15.5%	140-150	5.2	0.5%
60-70	134.9	12.0%	150-160	3.8	0.3%
70-80	82.5	7.3%	160-170	1.7	0.2%
80-90	31.7	2.8%	170-180	0.4	0.0%

Photometric Data

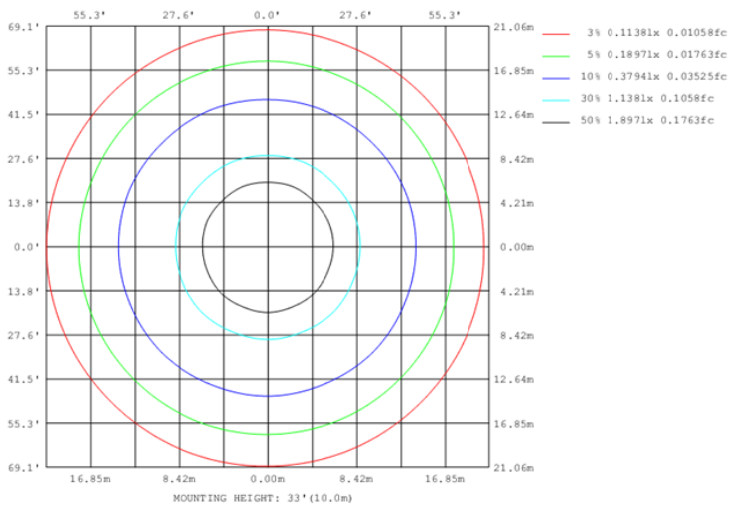
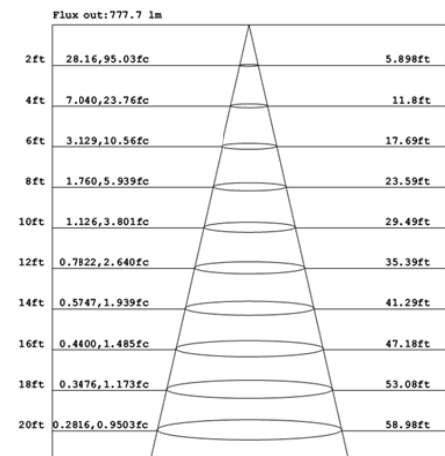
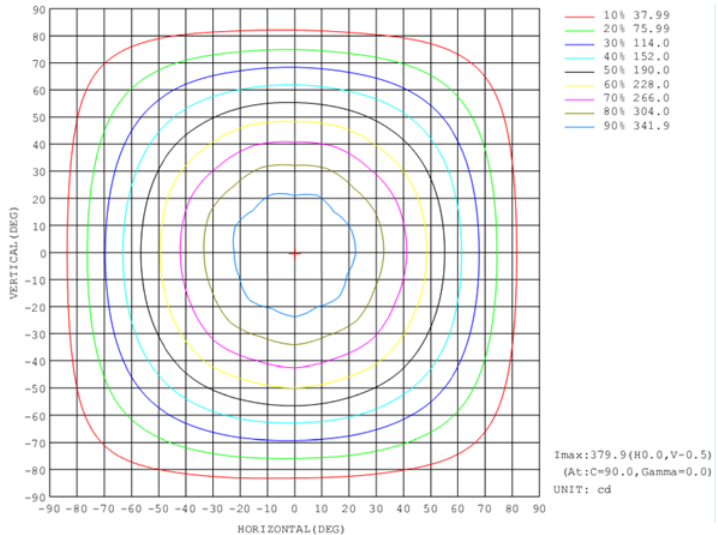
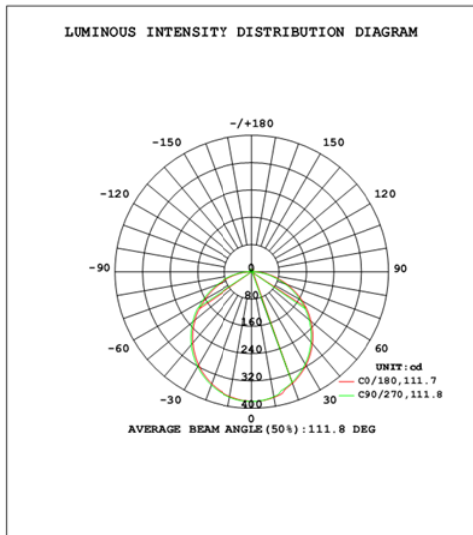


Table--1

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	379	379	379	380	380	380	379	380	379	379	379	380	380	380	379	380	
5	377	378	377	378	378	379	379	379	378	378	378	378	378	378	377	378	
10	371	372	372	373	373	374	374	374	374	373	372	372	372	371	372	371	
15	362	357	363	358	365	363	366	363	362	364	358	363	357	362	356	362	
20	349	345	351	346	353	348	354	348	348	353	347	351	345	349	344	349	
25	333	330	336	332	339	334	339	333	334	338	332	336	330	334	329	334	
30	315	312	318	315	321	317	322	316	317	320	314	318	312	316	311	315	
35	294	291	297	295	301	297	302	297	297	300	294	297	292	295	290	295	
40	272	269	275	273	278	275	280	275	275	278	272	275	269	272	268	272	
45	247	245	250	249	254	252	256	251	251	254	248	250	245	247	243	247	
50	220	219	224	223	228	226	230	226	226	227	222	224	219	221	217	220	
55	190	191	196	196	201	199	202	199	199	200	195	196	192	191	190	191	
60	160	163	164	168	169	171	170	171	171	168	167	164	163	161	161	160	
65	131	133	135	138	140	142	141	141	142	139	138	135	134	131	132	131	
70	101	104	105	109	110	112	112	112	112	110	108	105	104	102	102	101	
75	72.4	74.9	76.5	79.6	80.9	83.0	82.8	83.2	83.1	80.6	79.3	76.3	75.2	72.9	73.1	72.6	
80	45.8	48.2	49.6	52.6	53.8	55.8	55.5	55.8	55.7	53.3	52.0	49.2	48.1	46.1	46.4	45.9	
85	24.0	25.9	27.0	29.4	30.4	32.1	31.8	32.0	31.7	29.5	28.6	26.3	25.7	24.1	24.2	23.8	
90	9.84	10.9	11.6	12.9	13.6	14.6	14.4	14.5	14.3	12.9	12.4	11.1	10.7	9.92	9.99	9.81	
95	3.40	3.73	3.92	4.40	4.55	4.99	4.93	5.06	4.96	4.47	4.29	3.98	3.92	3.71	3.68	3.47	
100	2.23	1.94	1.96	1.97	2.13	2.23	2.32	2.43	2.40	2.31	2.36	2.54	2.70	2.65	2.57	2.36	
105	2.98	2.33	2.21	2.25	2.44	2.50	2.45	2.75	2.73	2.65	2.69	3.02	3.16	3.08	3.01	3.05	
110	3.92	3.08	3.01	3.07	3.27	3.07	3.20	3.50	3.51	3.34	3.47	3.76	3.78	3.63	3.70	3.74	
115	4.79	4.05	4.18	4.14	4.17	3.98	4.04	4.42	4.46	3.97	4.28	4.41	4.28	4.07	4.25	4.22	
120	5.96	5.11	5.38	5.26	5.24	4.85	4.96	5.42	5.24	5.08	5.33	5.59	5.12	5.58	5.42	5.26	
125	6.93	6.02	5.89	6.09	6.10	5.74	5.77	6.12	6.38	6.07	6.04	6.41	6.00	5.94	5.40	5.92	
130	7.78	6.85	6.78	6.67	7.00	6.29	6.44	6.90	7.48	7.15	7.38	7.25	6.90	6.54	6.14	6.64	
135	7.84	7.37	7.39	7.23	7.64	6.71	7.13	7.74	8.00	7.83	8.28	8.04	7.80	7.20	6.82	7.34	
140	8.53	7.71	8.01	7.60	8.06	7.06	7.78	8.02	8.52	8.31	9.07	8.49	8.33	7.59	7.28	7.49	
145	9.21	8.13	8.93	7.83	8.49	7.43	7.43	7.97	9.23	8.77	9.73	8.98	8.65	7.89	6.86	7.35	
150	9.94	9.35	9.30	7.96	8.57	7.58	6.45	8.11	9.87	9.72	10.7	9.01	9.41	8.41	6.06	6.80	
155	8.66	9.32	8.72	8.46	8.89	6.82	5.91	7.37	9.75	10.4	10.3	8.99	9.54	7.65	5.46	6.43	
160	6.45	7.75	8.37	9.18	7.40	5.22	5.93	6.04	8.84	9.80	9.02	9.99	8.56	5.25	5.27	5.63	
165	5.47	5.59	6.69	6.60	4.90	4.85	5.56	5.85	5.89	6.94	7.58	6.81	5.62	4.36	4.62	5.48	
170	4.97	5.04	4.76	4.45	4.59	4.70	4.81	5.32	5.58	5.46	5.31	5.02	4.69	4.22	4.50	4.60	
175	4.14	4.12	4.06	4.18	4.34	4.39	4.36	4.22	4.31	4.25	4.18	4.18	4.07	4.13	4.28	4.33	
180	4.08	4.08	4.08	4.07	4.07	4.06	4.06	4.08	4.06	4.07	4.05	4.06	4.06	4.06	4.07	4.08	

2.1.3 Electrical, Photometric and Chromaticity Measurements

Test date	2023-04-18	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK34-6	4000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202304180007	120.0	60	0.134	14.80	0.925

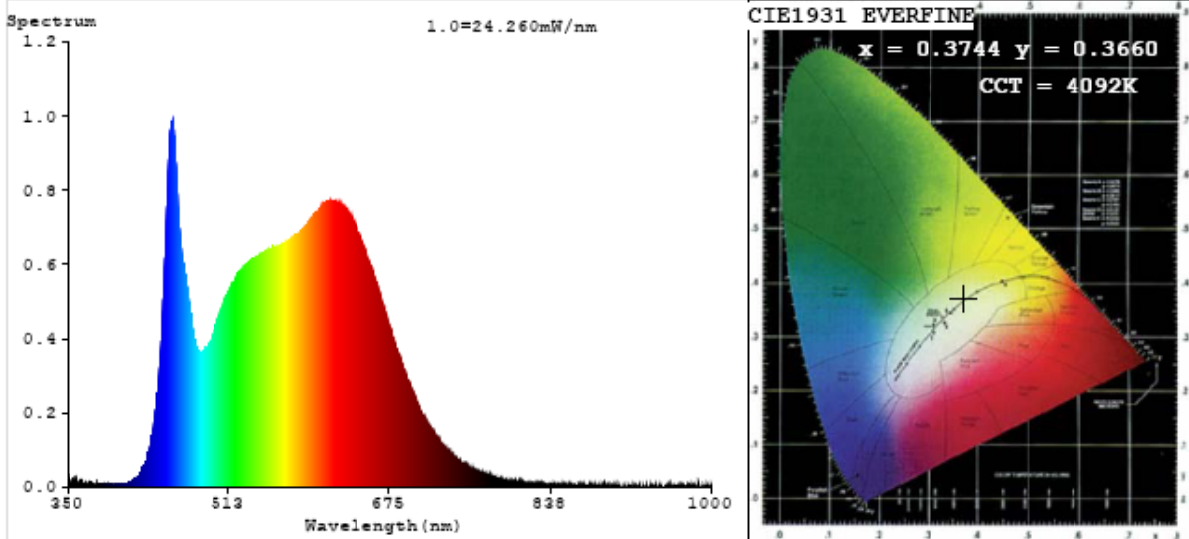
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	98	R9	83
Frequency (Hz)	60	R2	99	R10	98
CCT (K)	4092	R3	98	R11	96
Duv	-0.0033	R4	95	R12	73
Chromaticity (x, y)	x=0.3744 y=0.3660	R5	96	R13	99
Chromaticity (u', v')	u'=0.2254 v'=0.4959	R6	95	R14	99
Color Rendering Index (CRI)	95.7	R7	94	R15	96
R9	83	R8	91	--	--

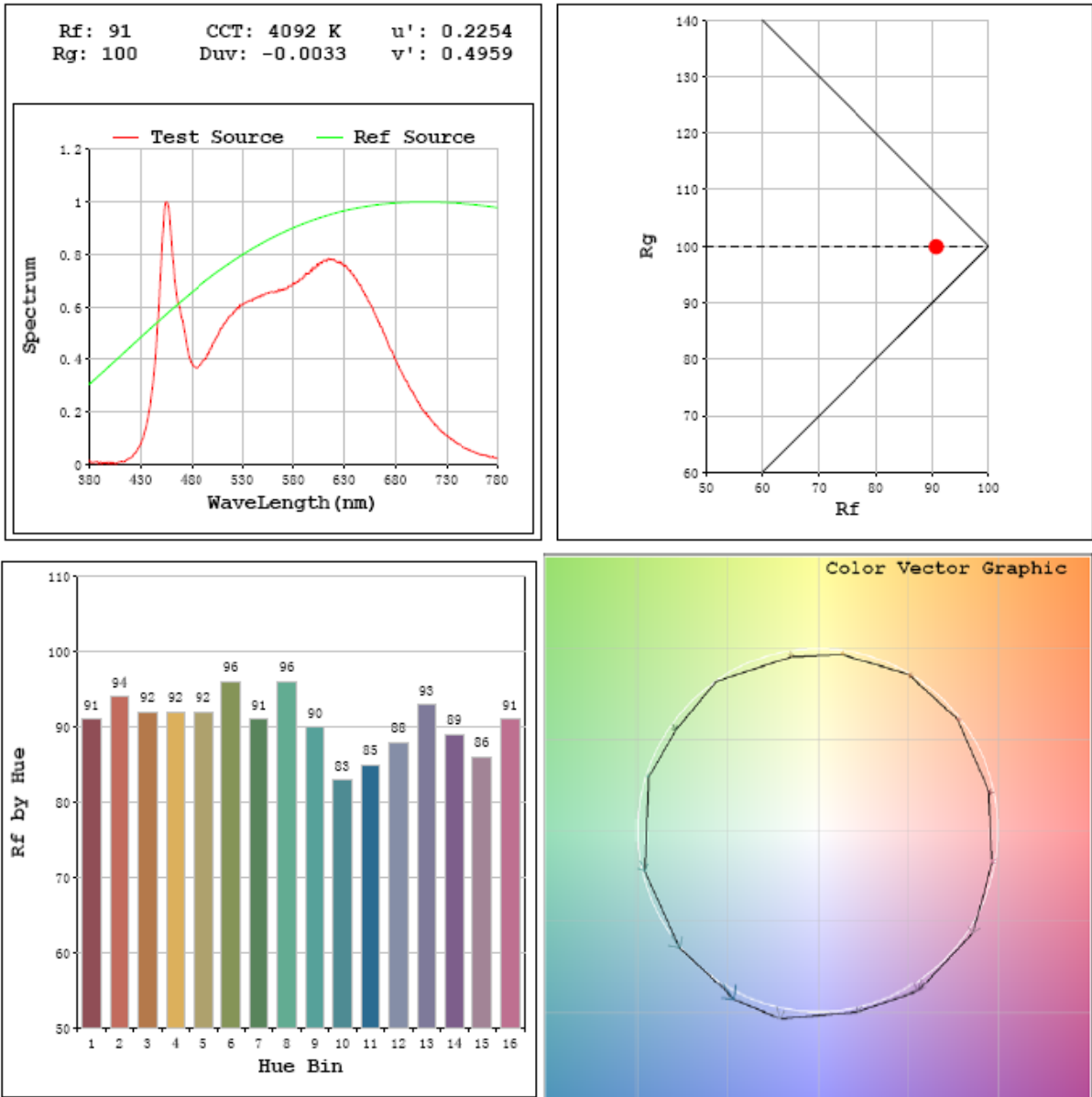
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1131.7
Luminous Efficacy (lm/W)	76.47
Beam Angle (°)	111.7
Center Beam Candle Power (cd)	381.1

Spectral Power Distribution & Chromaticity Diagram



TM30



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	292.8	25.9%
0-40	478.5	42.3%
0-60	846.4	74.8%
60-90	249.8	22.1%
70-100	120.2	10.6%
90-120	12.9	1.1%
0-90	1096.2	96.9%
90-180	35.5	3.1%
0-180	1131.7	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	36.0	3.2%	90-100	5.7	0.5%
10-20	102.4	9.0%	100-110	2.9	0.3%
20-30	154.3	13.6%	110-120	4.3	0.4%
30-40	185.8	16.4%	120-130	5.5	0.5%
40-50	193.0	17.0%	130-140	5.9	0.5%
50-60	174.9	15.5%	140-150	5.2	0.5%
60-70	135.3	12.0%	150-160	3.9	0.3%
70-80	82.7	7.3%	160-170	1.8	0.2%
80-90	31.8	2.8%	170-180	0.4	0.0%

Photometric Data

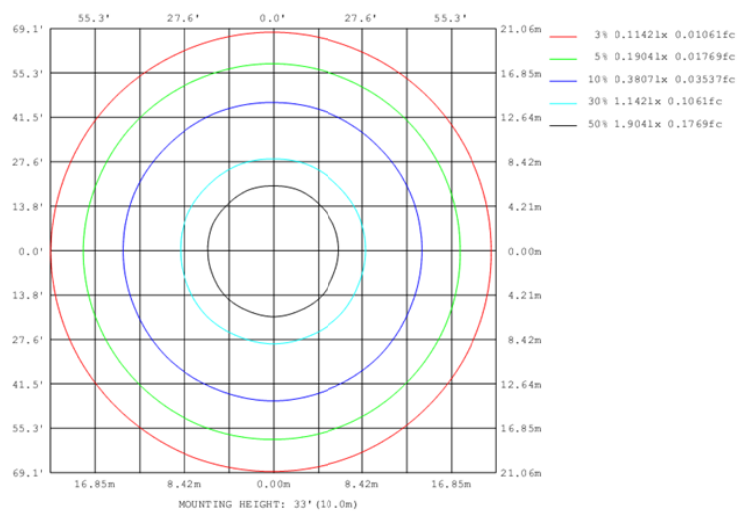
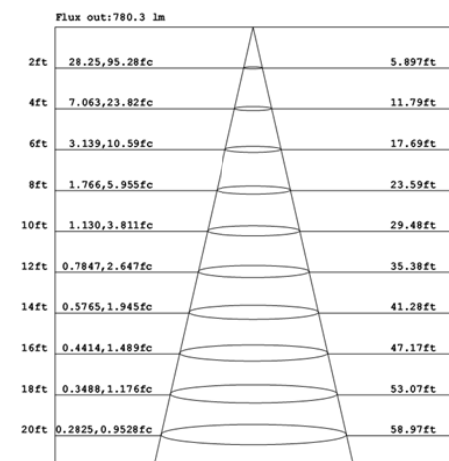
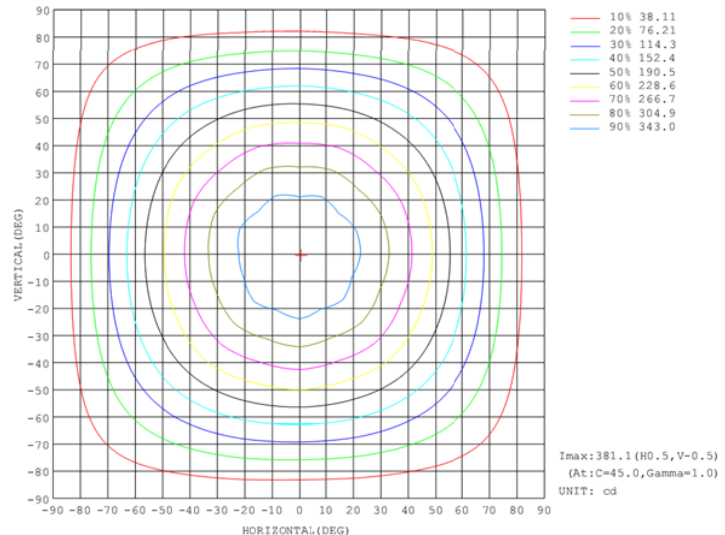
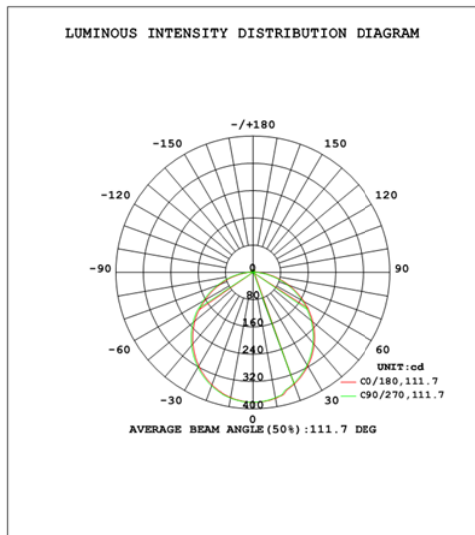


Table--1

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	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381			
5	379	379	379	379	379	379	380	380	380	379	379	379	379	378	378	379			
10	372	373	373	374	374	375	374	375	375	374	374	373	373	373	373	373			
15	363	358	364	359	366	364	366	363	363	366	359	364	358	363	357	364			
20	351	346	352	348	354	349	355	349	349	354	347	352	346	351	345	351			
25	335	331	337	333	339	334	340	334	334	339	333	337	331	335	330	335			
30	317	313	319	316	321	317	322	317	317	321	315	319	313	317	312	317			
35	296	293	299	296	302	298	302	297	298	301	295	299	293	297	292	296			
40	273	270	276	274	279	276	280	275	276	279	273	276	270	274	269	273			
45	248	246	252	250	255	252	256	252	252	254	249	251	246	249	245	248			
50	222	220	225	224	229	226	230	226	226	228	223	225	220	222	218	222			
55	192	192	197	197	201	199	202	199	199	200	196	197	192	192	191	192			
60	161	164	165	168	169	171	170	170	171	168	167	165	164	162	162	162			
65	132	134	136	139	140	141	141	141	141	139	138	135	134	132	133	132			
70	102	105	106	109	110	112	111	112	112	109	108	106	105	103	103	102			
75	73.2	75.7	77.1	79.9	80.8	82.6	82.1	82.5	82.7	80.2	79.1	76.5	75.7	73.7	74.0	73.5			
80	46.6	48.8	50.1	52.7	53.6	55.3	54.9	55.1	55.1	52.8	51.8	49.3	48.5	46.7	47.1	46.6			
85	24.5	26.3	27.4	29.6	30.3	31.7	31.3	31.3	31.3	29.3	28.5	26.5	25.9	24.4	24.7	24.3			
90	10.1	11.2	11.8	13.1	13.5	14.4	14.2	14.2	14.0	12.8	12.3	11.2	10.8	10.1	10.2	10.0			
95	3.41	3.78	3.98	4.46	4.58	4.95	4.83	4.94	4.85	4.43	4.29	3.98	3.89	3.64	3.62	3.45			
100	2.16	1.88	1.91	1.96	2.15	2.28	2.38	2.48	2.43	2.32	2.35	2.46	2.62	2.54	2.48	2.27			
105	2.91	2.27	2.14	2.24	2.48	2.54	2.56	2.88	2.82	2.66	2.65	2.95	3.11	3.02	2.95	2.97			
110	3.87	3.05	3.04	3.11	3.29	3.09	3.26	3.66	3.61	3.37	3.44	3.72	3.79	3.61	3.68	3.74			
115	4.87	4.10	4.21	4.24	4.20	4.00	4.08	4.51	4.52	3.96	4.24	4.41	4.36	4.12	4.30	4.29			
120	6.07	5.17	5.39	5.36	5.30	4.88	5.03	5.54	5.33	5.07	5.30	5.65	5.23	5.86	5.33	5.37			
125	7.08	6.05	5.90	6.16	6.22	5.80	5.87	6.25	6.48	6.03	5.99	6.44	6.11	6.04	5.44	6.03			
130	7.82	6.88	6.78	6.77	7.17	6.33	6.52	7.07	7.50	7.07	7.22	7.25	7.01	6.63	6.22	6.83			
135	7.91	7.41	7.38	7.38	7.84	6.72	7.18	7.96	8.00	7.76	8.14	8.07	7.96	7.30	6.90	7.64			
140	8.55	7.77	7.96	7.80	8.16	7.08	7.83	8.32	8.48	8.27	8.83	8.54	8.42	7.69	7.35	7.78			
145	9.21	8.17	8.90	8.02	8.57	7.46	7.48	8.19	9.11	8.72	9.43	9.10	8.55	8.03	6.96	7.59			
150	10.1	9.09	9.38	8.12	8.70	7.65	6.49	8.35	9.89	9.47	10.5	9.08	9.41	8.64	6.20	6.98			
155	8.86	9.54	9.03	8.38	9.20	6.90	5.98	7.51	9.81	10.3	10.6	8.97	9.49	7.89	5.54	6.66			
160	6.52	7.77	8.21	8.97	7.61	5.23	6.02	6.07	8.91	9.81	8.97	9.66	8.68	5.37	5.35	5.71			
165	5.57	5.70	6.92	6.87	4.92	4.85	5.57	5.88	5.92	7.07	7.61	6.91	5.70	4.39	4.65	5.56			
170	5.03	5.11	4.79	4.48	4.60	4.69	4.82	5.32	5.61	5.48	5.32	5.05	4.73	4.26	4.53	4.64			
175	4.17	4.15	4.08	4.19	4.35	4.39	4.36	4.23	4.31	4.26	4.19	4.19	4.08	4.14	4.31	4.35			
180	4.11	4.12	4.09	4.08	4.08	4.07	4.08	4.09	4.09	4.08	4.07	4.08	4.09	4.08	4.08	4.08			

2.1.4 Electrical, Photometric and Chromaticity Measurements

Test date	2023-04-18	Test Ambient:	25.3 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	DISK34-6	5000K	

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
202304180007	120.0	60	0.136	15.00	0.919

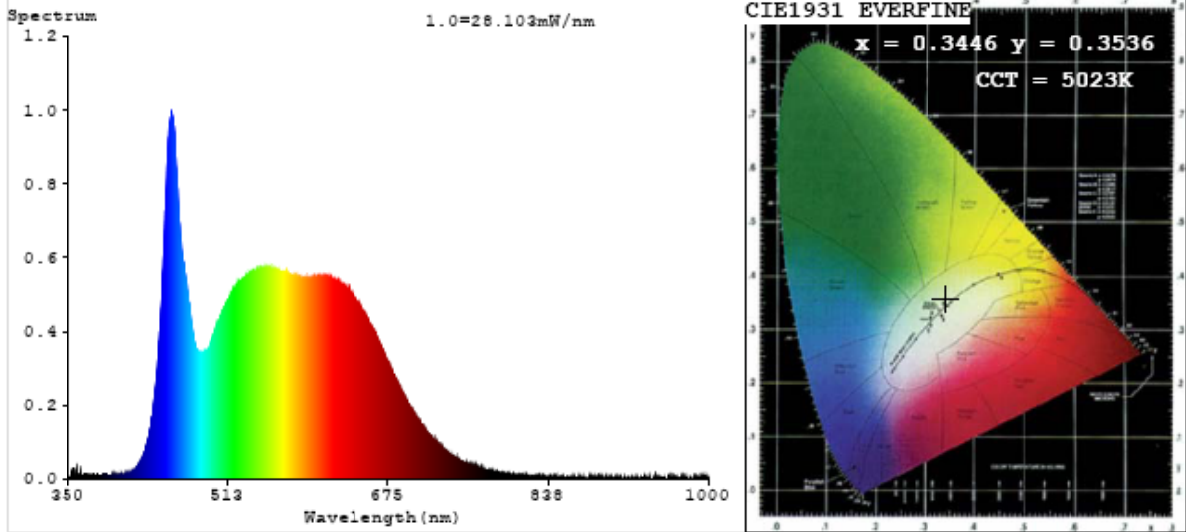
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120	R1	94	R9	74
Frequency (Hz)	60	R2	96	R10	89
CCT (K)	5023	R3	95	R11	92
Duv	0.0012	R4	93	R12	70
Chromaticity (x, y)	x=0.3446 y=0.3536	R5	93	R13	95
Chromaticity (u', v')	u'=0.2103 v'=0.4856	R6	92	R14	97
Color Rendering Index (CRI)	93.5	R7	95	R15	93
R9	74	R8	89	--	--

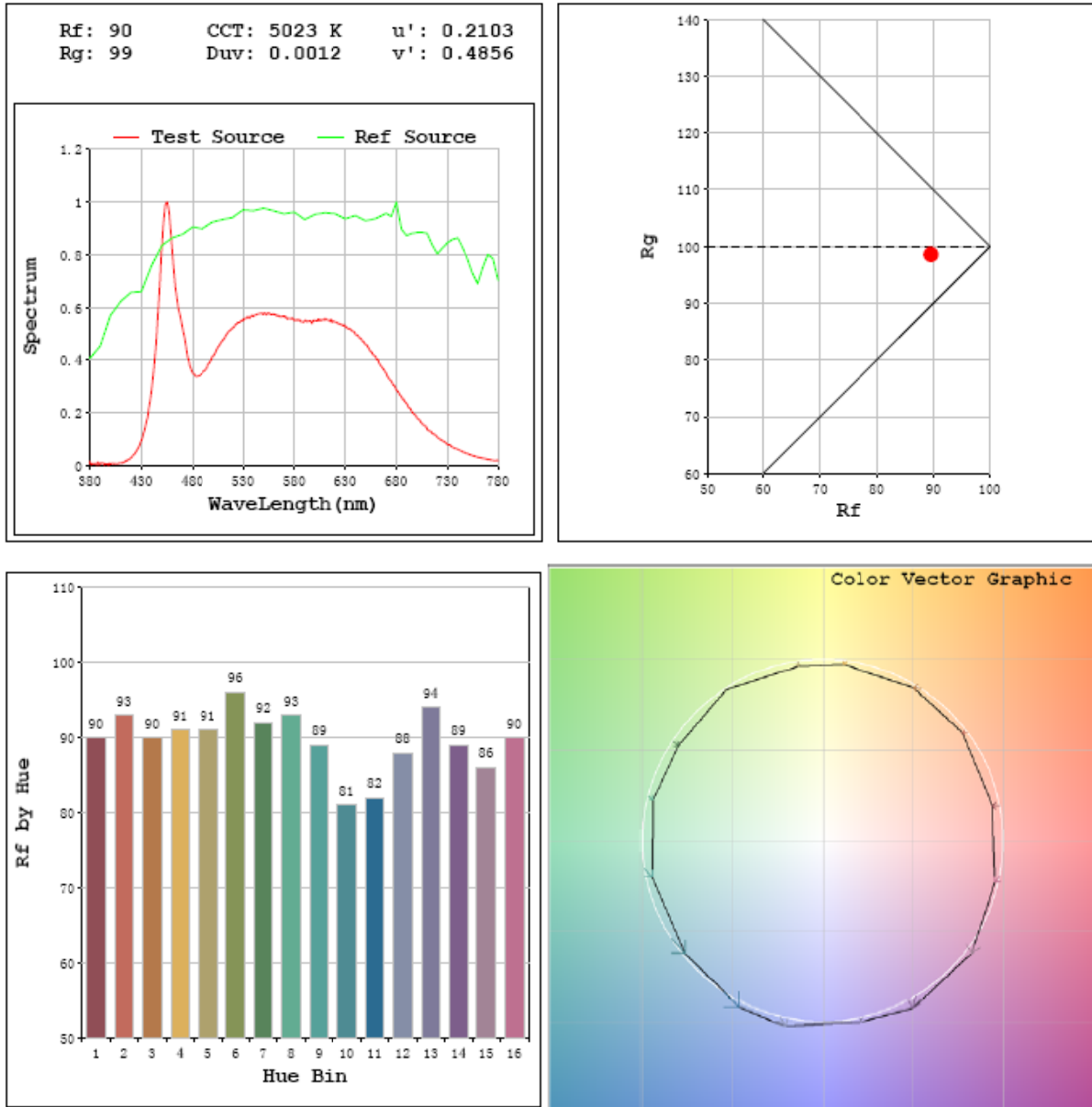
Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1088.1
Luminous Efficacy (lm/W)	72.54
Beam Angle (°)	111.4
Center Beam Candle Power (cd)	367.4

Spectral Power Distribution & Chromaticity Diagram



TM30



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	280.6	25.8%
0-40	459.1	42.2%
0-60	812.6	74.7%
60-90	240.9	22.1%
70-100	116.1	10.7%
90-120	12.6	1.2%
0-90	1053.5	96.8%
90-180	34.6	3.2%
0-180	1088.1	100.0%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	34.3	3.2%	90-100	5.6	0.5%
10-20	98.1	9.0%	100-110	2.8	0.3%
20-30	148.3	13.6%	110-120	4.2	0.4%
30-40	178.5	16.4%	120-130	5.4	0.5%
40-50	185.4	17.0%	130-140	5.7	0.5%
50-60	168.1	15.5%	140-150	5.1	0.5%
60-70	130.4	12.0%	150-160	3.8	0.3%
70-80	79.7	7.3%	160-170	1.7	0.2%
80-90	30.7	2.8%	170-180	0.4	0.0%

Photometric Data

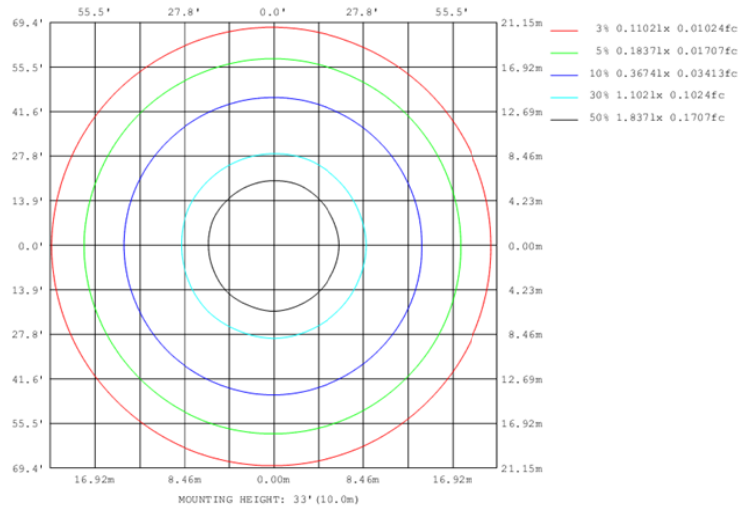
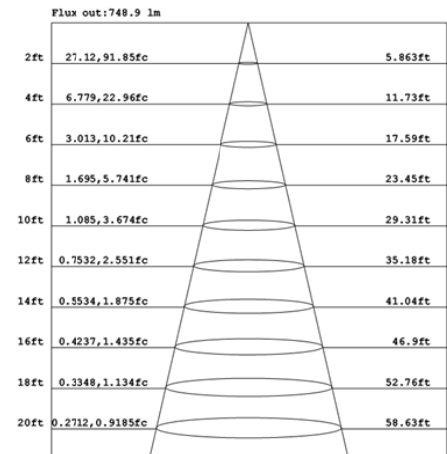
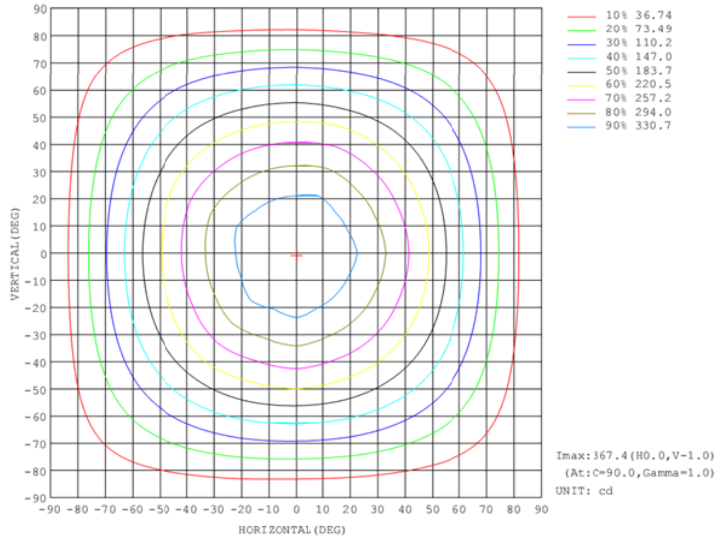
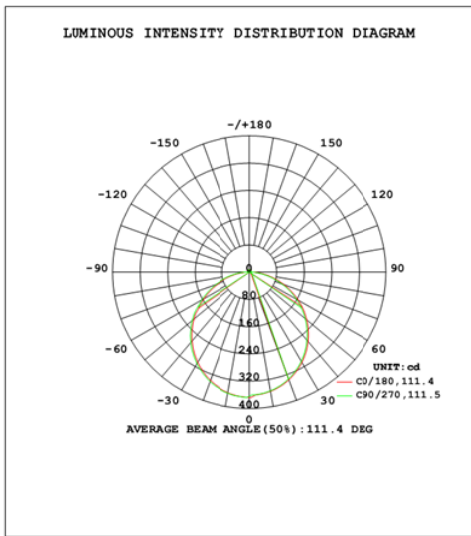


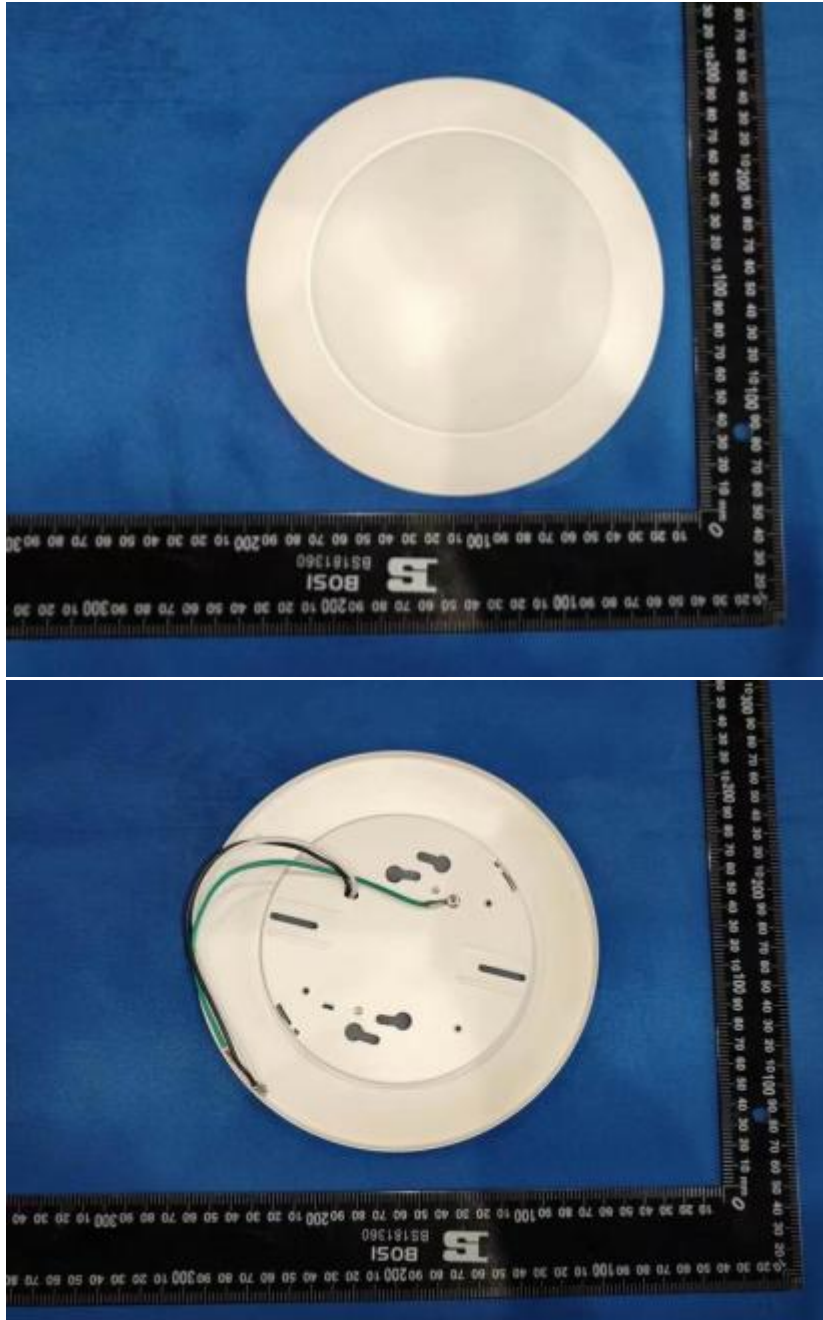
Table--1

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	367	361	361	361	364	367	360	361	367	361	361	361	364	367	360	361			
5	365	359	359	359	365	360	366	359	360	365	359	359	359	365	359	359			
10	359	354	354	354	361	355	361	355	355	360	354	354	354	359	353	353			
15	350	345	345	346	352	347	353	347	347	353	346	345	345	350	345	344			
20	338	333	334	335	341	336	342	336	336	341	335	334	333	338	333	332			
25	323	319	320	321	327	322	328	322	322	327	321	319	319	324	318	318			
30	306	302	302	304	310	306	311	306	306	310	304	302	302	306	301	300			
35	286	282	283	285	290	287	291	287	287	290	284	283	282	286	281	281			
40	263	261	262	264	269	266	270	265	266	269	263	261	260	264	259	259			
45	239	237	238	240	246	243	247	242	243	245	240	238	237	240	236	235			
50	214	212	213	216	220	218	221	218	218	220	215	213	212	214	210	210			
55	183	186	187	189	192	192	193	192	192	191	188	186	185	184	184	183			
60	156	158	159	162	163	165	164	164	164	162	161	159	158	156	156	156			
65	127	129	131	133	135	136	136	136	136	134	133	130	129	127	128	127			
70	98.4	101	102	105	106	108	107	108	108	106	104	102	101	98.9	99.0	98.5			
75	70.6	72.9	74.2	76.9	78.0	79.8	79.5	79.7	79.8	77.5	76.4	73.8	72.9	70.9	71.1	70.7			
80	44.8	47.0	48.2	50.8	51.8	53.4	53.1	53.3	53.2	51.1	50.0	47.6	46.7	45.0	45.2	44.8			
85	23.7	25.4	26.4	28.5	29.3	30.7	30.4	30.5	30.3	28.4	27.6	25.6	25.0	23.5	23.7	23.5			
90	9.86	10.9	11.5	12.7	13.2	14.1	13.9	13.9	13.7	12.6	12.0	10.9	10.5	9.82	9.89	9.77			
95	3.38	3.73	3.91	4.39	4.48	4.85	4.77	4.90	4.82	4.39	4.24	3.90	3.84	3.61	3.59	3.43			
100	2.16	1.87	1.91	1.93	2.10	2.16	2.28	2.37	2.32	2.24	2.28	2.45	2.59	2.53	2.45	2.26			
105	2.86	2.25	2.13	2.21	2.43	2.43	2.41	2.76	2.70	2.51	2.59	2.90	3.08	2.97	2.90	2.95			
110	3.78	2.97	2.94	3.02	3.24	3.01	3.12	3.54	3.47	3.22	3.34	3.66	3.75	3.53	3.60	3.68			
115	4.74	3.93	4.06	4.13	4.16	3.90	3.96	4.46	4.39	3.80	4.12	4.34	4.30	3.99	4.17	4.21			
120	5.93	4.99	5.16	5.24	5.26	4.75	4.86	5.43	5.17	4.86	5.08	5.55	5.13	6.07	5.87	5.30			
125	6.95	5.85	5.64	5.99	6.19	5.67	5.66	6.11	6.28	5.75	5.73	6.31	5.98	5.98	5.31	5.94			
130	7.51	6.61	6.43	6.57	7.19	6.19	6.34	6.97	7.19	6.70	6.77	7.06	6.86	6.44	6.08	6.81			
135	7.63	7.12	6.97	7.22	7.80	6.52	6.97	7.92	7.58	7.41	7.65	7.86	7.82	7.05	6.74	7.71			
140	8.18	7.49	7.47	7.68	8.03	6.85	7.59	8.33	8.09	7.92	8.21	8.31	8.20	7.42	7.15	7.87			
145	8.78	7.88	8.42	7.87	8.38	7.25	7.28	8.23	8.62	8.36	8.69	8.99	8.08	7.84	6.80	7.61			
150	10.0	8.33	9.07	7.93	8.62	7.48	6.33	8.40	9.60	8.78	9.75	8.84	8.98	8.62	6.14	6.94			
155	8.77	9.46	9.11	7.88	9.22	6.79	5.88	7.50	9.60	9.87	10.5	8.59	8.97	7.82	5.42	6.68			
160	6.37	7.49	7.59	8.25	7.65	5.11	5.99	5.97	8.72	9.52	8.58	8.79	8.49	5.30	5.21	5.60			
165	5.44	5.61	6.96	6.96	4.80	4.72	5.46	5.74	5.79	6.97	7.40	6.82	5.54	4.25	4.50	5.43			
170	4.90	4.96	4.65	4.32	4.46	4.55	4.68	5.18	5.46	5.36	5.17	4.91	4.56	4.13	4.39	4.50			
175	4.03	4.01	3.94	4.05	4.20	4.23	4.22	4.09	4.17	4.13	4.05	4.03	3.92	4.00	4.17	4.19			
180	3.95	3.96	3.95	3.94	3.95	3.93	3.94	3.96	3.93	3.94	3.93	3.94	3.96	3.94	3.93	3.93			

Sample No.	Wattage and CCT setting	Test Voltage(V)	Flux(lm)	P(W)	Luminous Efficacy lm/W
DISK34-6	2700K setting	120.0	1017.4	14.90	68.28
	3000K setting	120.0	1076.6	14.90	72.26
	3500K setting	120.0	1128.1	14.70	76.74
	4000K setting	120.0	1131.7	14.80	76.47
	5000K setting	120.0	1088.1	15.00	72.54

3. Product Photo



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