



# IES LM-79-08

## MEASUREMENT AND TEST REPORT

For

### MaxLite Inc

10 York Avenue, West Caldwell, NJ 07006

**Test Model: LSUECO-4DU4040ZZ**

<b>Report Type:</b>	Electrical and Photometric tests including: Luminous Flux, Chromaticity, Luminous Intensity Distribution, THD
<b>Test Engineer:</b>	Carl Du <i>Carl Du</i>
<b>Report Number:</b>	RKS170110002-10
<b>Test Date:</b>	2016-11-14 to 2016-11-15
<b>Report Date:</b>	2017-01-11
<b>Reviewed By:</b>	Blake Zhang <i>Blake Zhang</i>
<b>Prepared By:</b>	Bay Area Compliance Laboratories Corp. (Dongguan). Pu Long Cun 69, Puxinghu Industrial Area, Tangxia Town, Dongguan, Guangdong, P.R.China. Tel: +86-0769-86858888 Fax: +86-0769-86858588
<b>Test Facility:</b>	Test facility was located at Pu Long Cun 69, Puxinghu Industrial Area, Tangxia Town, Dongguan, Guangdong, P.R.China.
<b>Accreditation:</b>	The IAS Accreditation Number TL-460.

**Note:** The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan). This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

## 1. Product Description

### General Information:

One sample was received on 2016-11-14 and used for testing.

Model Tested: LSUECO-4DU4040ZZ  
 Manufacturer: MaxLite Inc  
 Brand Name: MaxLite  
 Product Designation: Direct Linear Ambient Luminaires  
 Dimmable: Continuous Dimming  
 Dimming Range: 10% to 100%  
 Burning Time Before Test: 0hour(For New Products)

### Rated Values:

Rated Voltage/Frequency: 120-277VAC, 60Hz  
 Rated Power: 42W  
 Nominal CCT: 4000K  
 Nominal Lumen Output: 4410lm  
 Nominal CRI: 80  
 Luminaire length: 4 ft

### Note:

1. The applicant *MaxLite Inc* declare that their product with model LSUECO-4DU4040ZZ is the same to the product in report# RKS161114002-10 and is authorized by original applicant to use their test data.
2. All the data in previous report (RKS161114002-10) is shared in report.

## 2. Standards Used

- IES LM-79-08: Approved Method: Electrical & Photometric Measurement of Solid-state Lighting Products
- ANSI C82.77-2002: Harmonic Emission Limits – Related Power Quality Requirements for Lighting
- IES TM-30-15: IES Method for Evaluating Light Source Color Rendition (This method is not in IAS accreditation scope)

## 3. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Test Range	Calibration date	Calibration due date
2.0m integrating sphere	EVERFINE	R98	11010018	R98	2016-11-08	2017-11-07
spectroradiometer	EVERFINE	HAAS-2000	20140912	380-780nm	2016-11-08	2017-11-07
Digital Power Meter	EVERFINE	PF2010A	1011004	600V/20A	2016-07-11	2017-07-10
Digital CC&CV DC Power Supply	EVERFINE	WY305-V1	1101047	30V/5A	2016-07-07	2017-07-06
Temperature/humidity/clock	Victor	VC230	EE023	0~40°C0~90%	2016-03-21	2017-03-20
Standard Light Source	SENSING	N/A	LSD090808	N/A	2016-09-24	2017-09-23
Special zero-voltage synchronous switching AC	EVERFINE	DPS1010-YF	1011001T	0-150V, 0-300V	2016-03-04	2017-03-03

Device	Manufacture	Model No	Serial No	Test Range	Calibration date	Calibration due date
AC Power Supply	EVERFINE	VPS1030 PWM	1012017	0-150V, 0-300V	2016-03-04	2017-03-03
DC Power Supply	EVERFINE	WY12010	1009009	30V/5A	2016-03-04	2017-03-03
Power Meter	YOKOGAWA	WT-210	91KB35700	15/30/60/150/300/600 V	2016-03-04	2017-03-03
Goniophotometer	EVERFINE	GO-R5000	YG108492N10120001	1600mm,3000W/10A	2016-03-10	2017-03-09
Wireless Remote Sensor	N/A	433MHZ	N/A	0°C~50°C;-20°C~60°C	2016-03-21	2017-03-20
Standard Light Source	EVERFINE	D908	1012003	N/A	2016-09-07	2017-09-06

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

#### 4. Test Method

Product was tested with no seasoning. All stabilization and measurements were made in compliance with IES LM-79-08. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at 25°C±1°C during measurement. And relative humidity is less than 65%.

##### Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, Spectroradiometer, and integrating sphere. The integrating sphere system is calibrated by standard spectrum light source before measurement.

4π geometry was used during measurement. The product was operated in its intended orientation in application and was recorded in this report.

The uncertainty of the light output (luminous flux) measurements is U=1.8% (K=2), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is U=20K (K=2), at the 95% confidence level. The uncertainty of the CRI is U=1.8(K=2), at the 95% confidence level.

The uncertainty of power meter AC current U=0.19 % of rdg, AC Voltage U=0.15% of rdg, Power U=0.20%) (K=2), at the 95% confidence level.

##### Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement.

Type C goniophotometer was used for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. The product was operated in its intended orientation in application and was recorded in this report. The vertical angle (γ) test intervals were set no more than 1 degree while data for 5 degree intervals is reported. The horizontal angle (C plane) test intervals were set no more than 22.5 degree.

The uncertainty of the luminous intensity is U=1.6% (K=2) , at the 95% confidence level.

##### Additional Test

The Additional Test item may not be covered by IESNA LM-79-2008. Additional test including power factor, off-state power and THD, was measured by Digital Power Meter after stabilized at 25°C±1°C. Test voltage for THD and power factor test would be equal to rated voltage or, in case of a voltage range, maximum value of that range.

The uncertainty of power meter AC current U=0.19 % of rdg, AC Voltage U=0.15% of rdg, Power U=0.20%) (K=2), at the 95% confidence level.

##### Fidelity Index and Gamut Index Calculation

The  $R_f$ ,  $R_g$  was calculated according to IES TM-30-15 by using calculation tools. The calculation was based on the measured SPD from 380nm to 780nm with 1nm intervals. All the colors in this report is for reference only.

## 5. Test Result

### [Integrating Sphere System]

Total operating time for integrating sphere test: **0.5 hour**

Test orientation: **Downward**

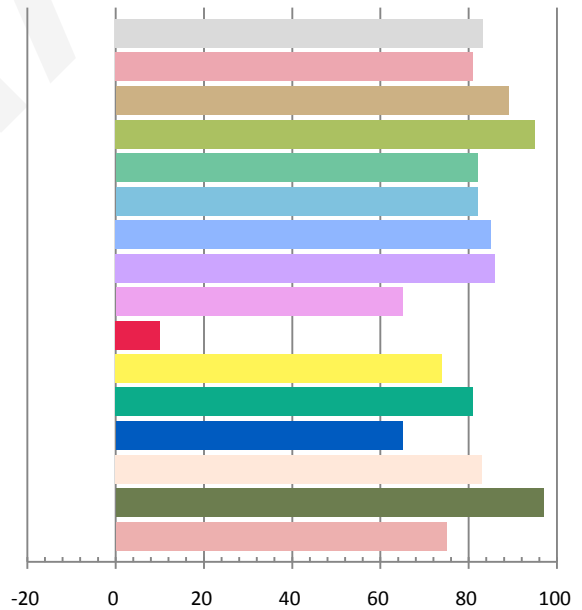
### Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.345	41.13	0.9939	4288.8	104.26

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
13.018	3979	0.00088	0.3820	0.3796	0.2250	0.5031

### Color Rendering Index

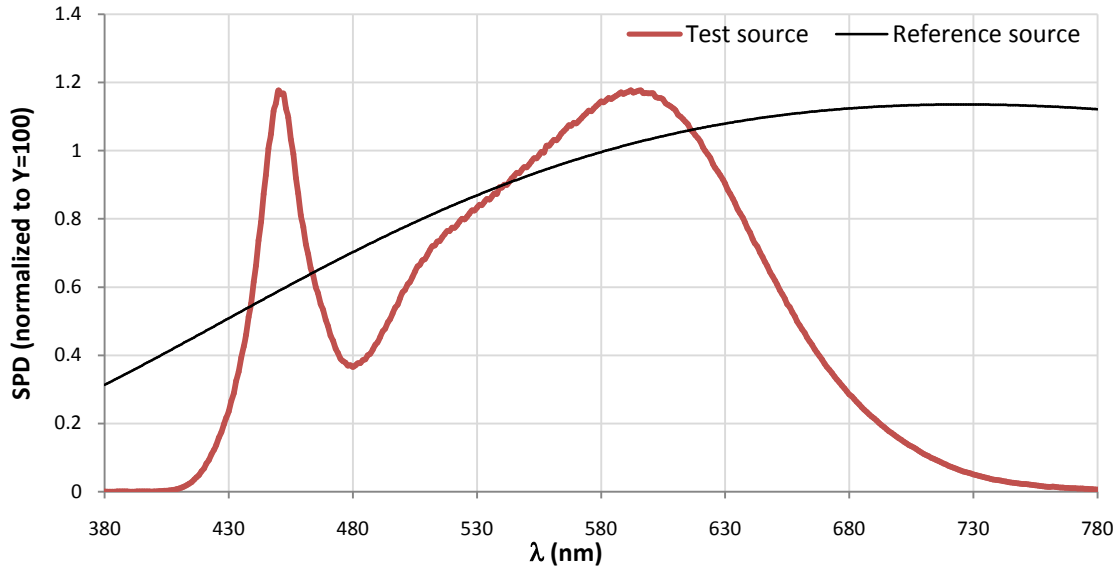
Ra			
<b>83.2</b>			
R1	R2	R3	R4
81	89	95	82
R5	R6	R7	R8
82	85	86	65
R9	R10	R11	R12
10	74	81	65
R13	R14	R15	
83	97	75	



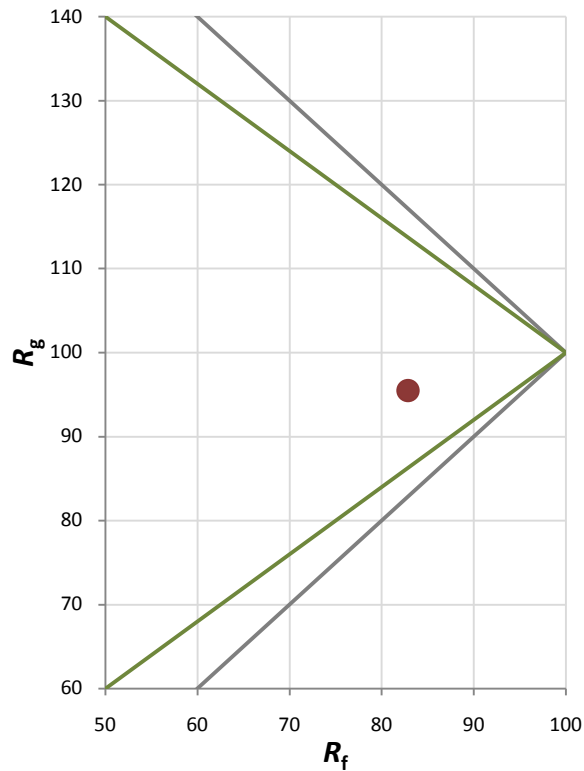
Fidelity Index and Gamut Index

Fidelity Index $R_f$	83
Gamut Index $R_g$	95

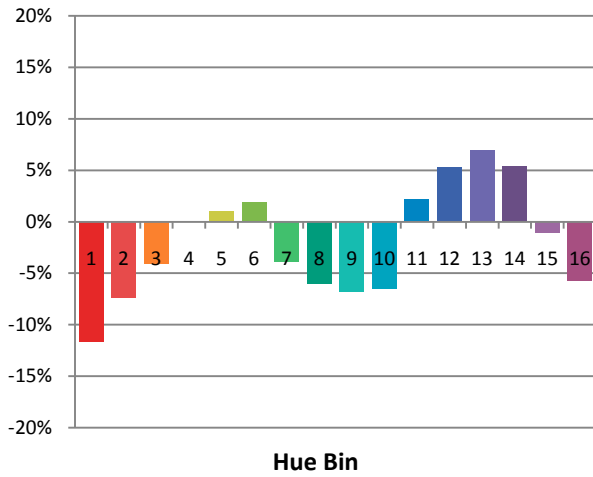
Spectral Power Distribution Comparison



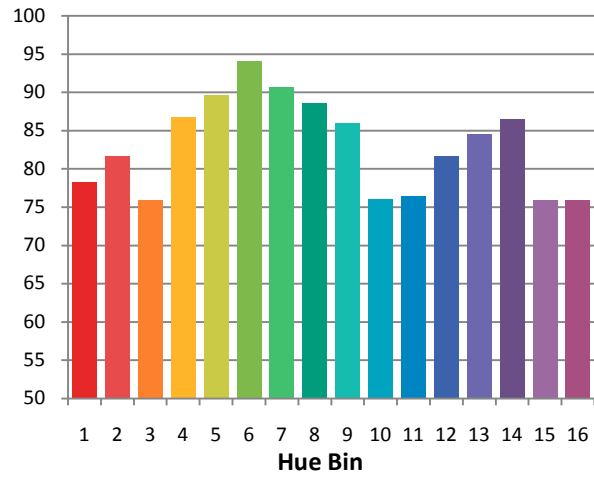
Plot of  $R_g$  versus  $R_f$



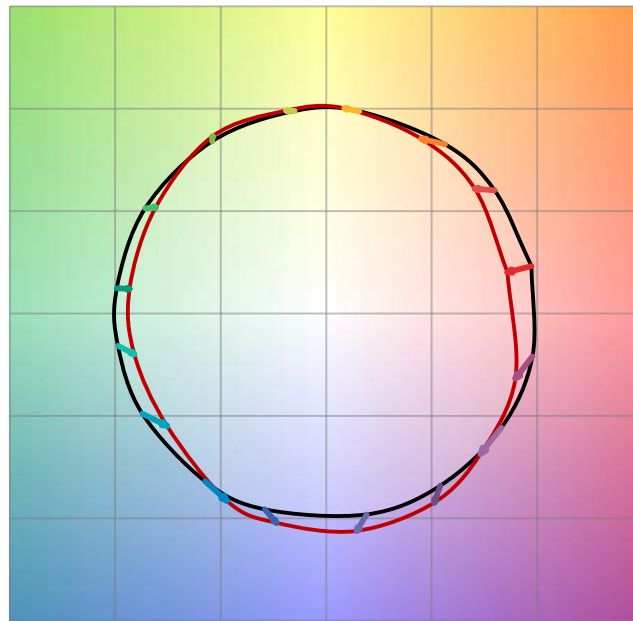
Chroma Shift by Hue



$R_f$  by Hue

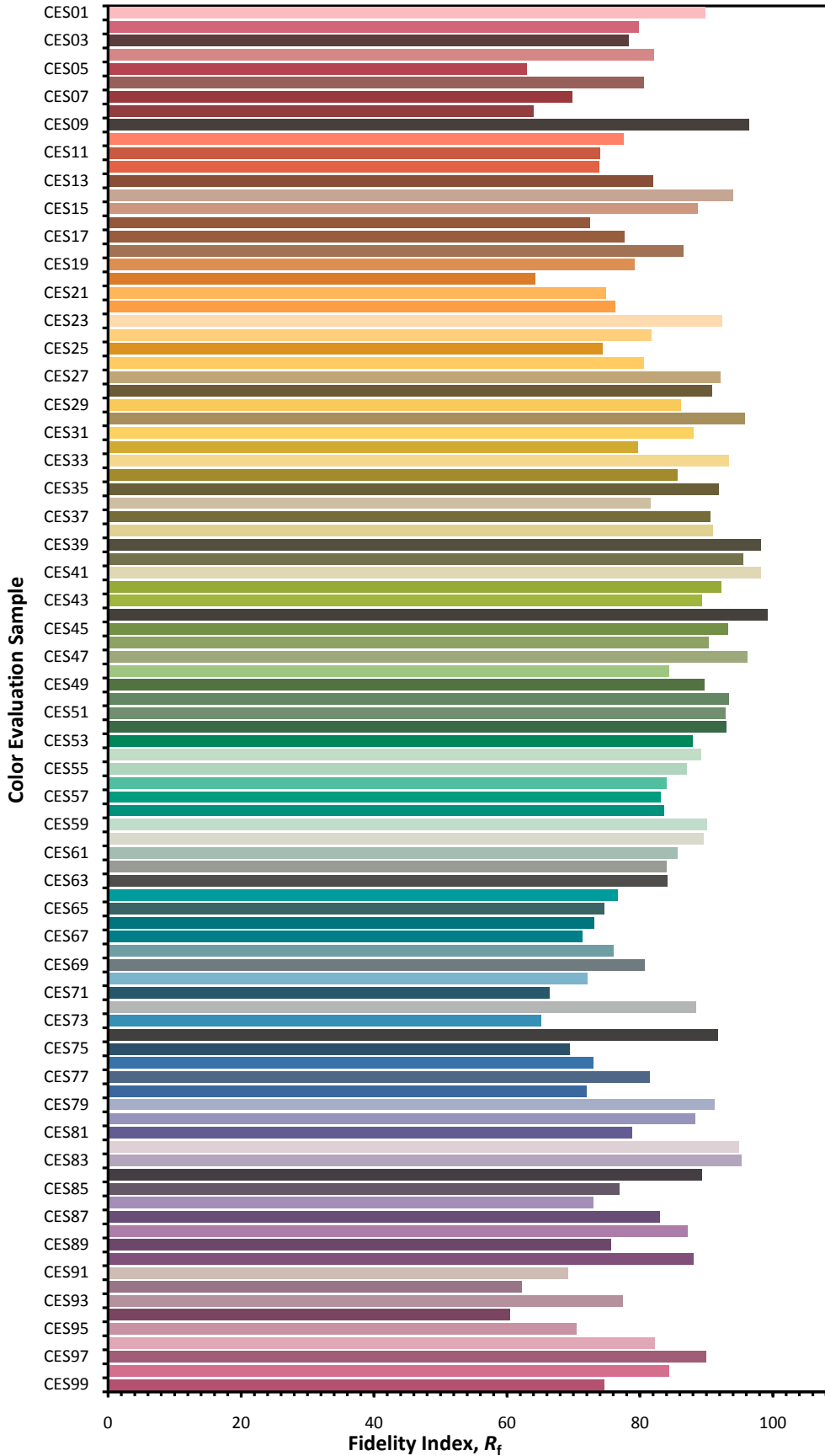


Color Vector Graphic

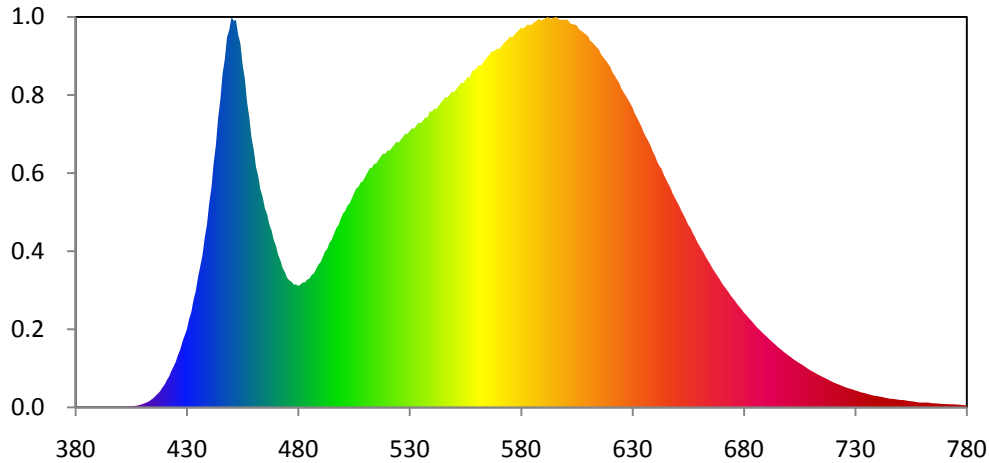


— Reference Illuminat — Test Source

**Color Fidelity by CES Sample**



**Relative Spectral Power Distribution**

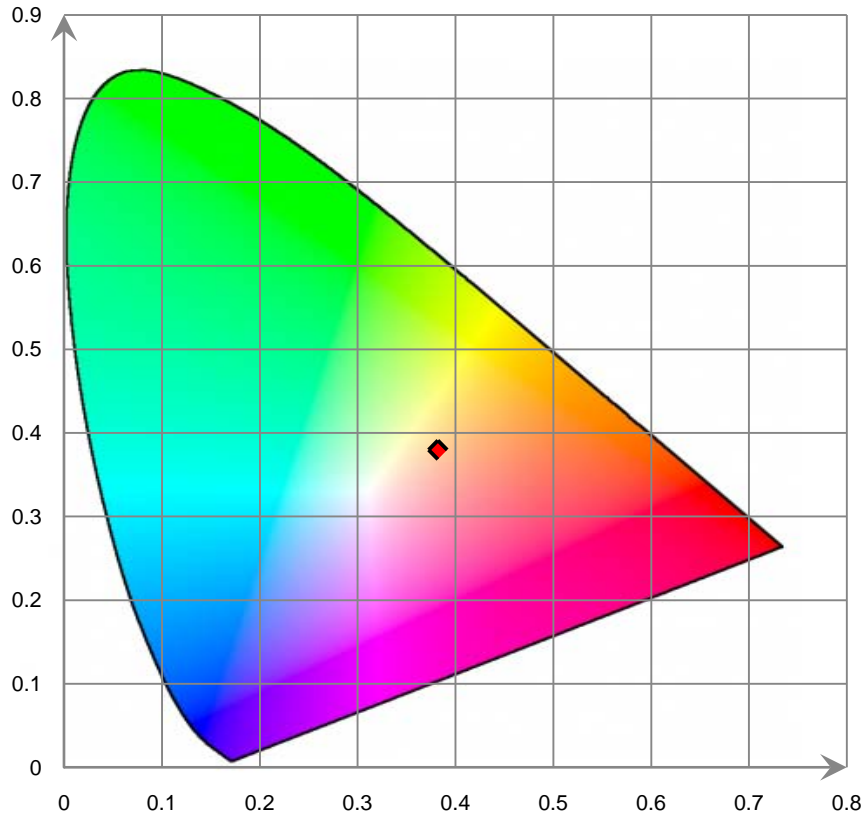


nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	2.690E-02	421	5.164E+00	462	4.379E+01	503	3.856E+01	544	5.765E+01
381	2.180E-02	422	5.855E+00	463	4.120E+01	504	3.954E+01	545	5.817E+01
382	2.020E-02	423	6.879E+00	464	3.980E+01	505	4.050E+01	546	5.870E+01
383	2.450E-02	424	7.728E+00	465	3.767E+01	506	4.145E+01	547	5.865E+01
384	2.300E-02	425	8.620E+00	466	3.652E+01	507	4.174E+01	548	5.922E+01
385	2.680E-02	426	9.948E+00	467	3.459E+01	508	4.258E+01	549	5.975E+01
386	3.160E-02	427	1.093E+01	468	3.349E+01	509	4.281E+01	550	5.971E+01
387	3.730E-02	428	1.245E+01	469	3.163E+01	510	4.363E+01	551	6.026E+01
388	3.380E-02	429	1.360E+01	470	3.051E+01	511	4.442E+01	552	6.081E+01
389	3.360E-02	430	1.481E+01	471	2.877E+01	512	4.521E+01	553	6.139E+01
390	2.540E-02	431	1.671E+01	472	2.778E+01	513	4.534E+01	554	6.137E+01
391	1.850E-02	432	1.811E+01	473	2.634E+01	514	4.605E+01	555	6.196E+01
392	1.660E-02	433	2.039E+01	474	2.558E+01	515	4.615E+01	556	6.255E+01
393	2.590E-02	434	2.208E+01	475	2.448E+01	516	4.684E+01	557	6.246E+01
394	3.260E-02	435	2.470E+01	476	2.403E+01	517	4.745E+01	558	6.370E+01
395	3.880E-02	436	2.671E+01	477	2.376E+01	518	4.801E+01	559	6.370E+01
396	3.720E-02	437	2.885E+01	478	2.321E+01	519	4.798E+01	560	6.423E+01
397	3.210E-02	438	3.214E+01	479	2.327E+01	520	4.861E+01	561	6.475E+01
398	2.910E-02	439	3.464E+01	480	2.299E+01	521	4.858E+01	562	6.471E+01
399	2.510E-02	440	3.862E+01	481	2.326E+01	522	4.914E+01	563	6.530E+01
400	4.610E-02	441	4.158E+01	482	2.364E+01	523	4.969E+01	564	6.591E+01
401	6.710E-02	442	4.623E+01	483	2.367E+01	524	5.024E+01	565	6.639E+01
402	9.430E-02	443	4.965E+01	484	2.419E+01	525	5.013E+01	566	6.687E+01
403	1.263E-01	444	5.478E+01	485	2.436E+01	526	5.064E+01	567	6.746E+01
404	1.525E-01	445	5.823E+01	486	2.508E+01	527	5.120E+01	568	6.737E+01
405	1.963E-01	446	6.316E+01	487	2.537E+01	528	5.179E+01	569	6.789E+01
406	2.407E-01	447	6.588E+01	488	2.616E+01	529	5.177E+01	570	6.778E+01
407	2.977E-01	448	7.006E+01	489	2.703E+01	530	5.228E+01	571	6.825E+01
408	3.617E-01	449	7.143E+01	490	2.748E+01	531	5.282E+01	572	6.877E+01
409	4.869E-01	450	7.385E+01	491	2.848E+01	532	5.277E+01	573	6.924E+01
410	6.120E-01	451	7.317E+01	492	2.949E+01	533	5.335E+01	574	6.961E+01
411	7.851E-01	452	7.329E+01	493	3.004E+01	534	5.390E+01	575	7.015E+01
412	9.421E-01	453	7.054E+01	494	3.114E+01	535	5.379E+01	576	7.007E+01
413	1.153E+00	454	6.885E+01	495	3.174E+01	536	5.431E+01	577	7.051E+01
414	1.466E+00	455	6.484E+01	496	3.282E+01	537	5.489E+01	578	7.100E+01
415	1.768E+00	456	6.215E+01	497	3.389E+01	538	5.484E+01	579	7.142E+01
416	2.224E+00	457	5.775E+01	498	3.446E+01	539	5.603E+01	580	7.185E+01
417	2.624E+00	458	5.489E+01	499	3.559E+01	540	5.596E+01	581	7.168E+01
418	3.077E+00	459	5.097E+01	500	3.667E+01	541	5.652E+01	582	7.207E+01
419	3.745E+00	460	4.874E+01	501	3.714E+01	542	5.647E+01	583	7.249E+01
420	4.323E+00	461	4.552E+01	502	3.817E+01	543	5.709E+01	584	7.227E+01

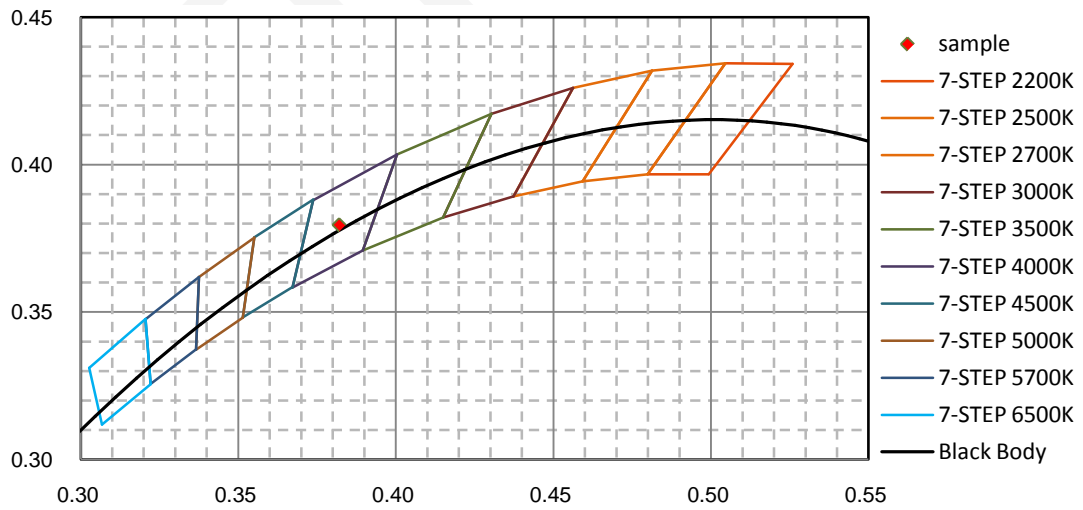


nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
585	7.259E+01	626	5.962E+01	667	2.560E+01	708	7.521E+00	749	1.469E+00
586	7.286E+01	627	5.894E+01	668	2.496E+01	709	7.225E+00	750	1.420E+00
587	7.318E+01	628	5.825E+01	669	2.432E+01	710	6.977E+00	751	1.396E+00
588	7.350E+01	629	5.752E+01	670	2.358E+01	711	6.737E+00	752	1.357E+00
589	7.321E+01	630	5.672E+01	671	2.299E+01	712	6.522E+00	753	1.277E+00
590	7.344E+01	631	5.562E+01	672	2.242E+01	713	6.262E+00	754	1.210E+00
591	7.366E+01	632	5.485E+01	673	2.186E+01	714	6.059E+00	755	1.158E+00
592	7.389E+01	633	5.398E+01	674	2.120E+01	715	5.832E+00	756	1.113E+00
593	7.348E+01	634	5.316E+01	675	2.067E+01	716	5.623E+00	757	1.045E+00
594	7.366E+01	635	5.204E+01	676	2.014E+01	717	5.413E+00	758	9.715E-01
595	7.380E+01	636	5.123E+01	677	1.954E+01	718	5.201E+00	759	9.105E-01
596	7.387E+01	637	5.046E+01	678	1.902E+01	719	4.980E+00	760	9.059E-01
597	7.337E+01	638	4.962E+01	679	1.852E+01	720	4.769E+00	761	9.008E-01
598	7.337E+01	639	4.849E+01	680	1.792E+01	721	4.574E+00	762	9.325E-01
599	7.336E+01	640	4.769E+01	681	1.753E+01	722	4.428E+00	763	8.964E-01
600	7.335E+01	641	4.656E+01	682	1.699E+01	723	4.244E+00	764	8.233E-01
601	7.335E+01	642	4.571E+01	683	1.654E+01	724	4.082E+00	765	7.667E-01
602	7.267E+01	643	4.515E+01	684	1.608E+01	725	3.901E+00	766	7.586E-01
603	7.253E+01	644	4.406E+01	685	1.555E+01	726	3.732E+00	767	7.290E-01
604	7.244E+01	645	4.321E+01	686	1.508E+01	727	3.608E+00	768	6.979E-01
605	7.225E+01	646	4.235E+01	687	1.468E+01	728	3.490E+00	769	6.575E-01
606	7.152E+01	647	4.154E+01	688	1.427E+01	729	3.359E+00	770	6.253E-01
607	7.125E+01	648	4.049E+01	689	1.384E+01	730	3.198E+00	771	6.235E-01
608	7.094E+01	649	3.968E+01	690	1.348E+01	731	3.089E+00	772	6.055E-01
609	7.058E+01	650	3.888E+01	691	1.305E+01	732	2.923E+00	773	5.818E-01
610	7.023E+01	651	3.809E+01	692	1.268E+01	733	2.797E+00	774	5.753E-01
611	6.940E+01	652	3.713E+01	693	1.227E+01	734	2.717E+00	775	5.468E-01
612	6.903E+01	653	3.635E+01	694	1.191E+01	735	2.592E+00	776	5.234E-01
613	6.859E+01	654	3.551E+01	695	1.149E+01	736	2.480E+00	777	4.965E-01
614	6.811E+01	655	3.453E+01	696	1.115E+01	737	2.368E+00	778	4.534E-01
615	6.765E+01	656	3.397E+01	697	1.083E+01	738	2.254E+00	779	4.304E-01
616	6.670E+01	657	3.303E+01	698	1.046E+01	739	2.181E+00	780	4.108E-01
617	6.618E+01	658	3.226E+01	699	1.014E+01	740	2.124E+00		
618	6.564E+01	659	3.134E+01	700	9.822E+00	741	2.032E+00		
619	6.506E+01	660	3.060E+01	701	9.533E+00	742	1.964E+00		
620	6.445E+01	661	2.989E+01	702	9.185E+00	743	1.858E+00		
621	6.341E+01	662	2.921E+01	703	8.891E+00	744	1.771E+00		
622	6.276E+01	663	2.839E+01	704	8.605E+00	745	1.687E+00		
623	6.207E+01	664	2.769E+01	705	8.340E+00	746	1.621E+00		
624	6.143E+01	665	2.701E+01	706	8.102E+00	747	1.585E+00		
625	6.033E+01	666	2.623E+01	707	7.809E+00	748	1.543E+00		

**CIE 1931 x y Chromaticity Diagram**



**7-Step Chromaticity Quadrangles**



**[Goniophotometer System]**

Total operating time for luminous intensity distribution: **1.0 hours**

Test orientation: **Downward**

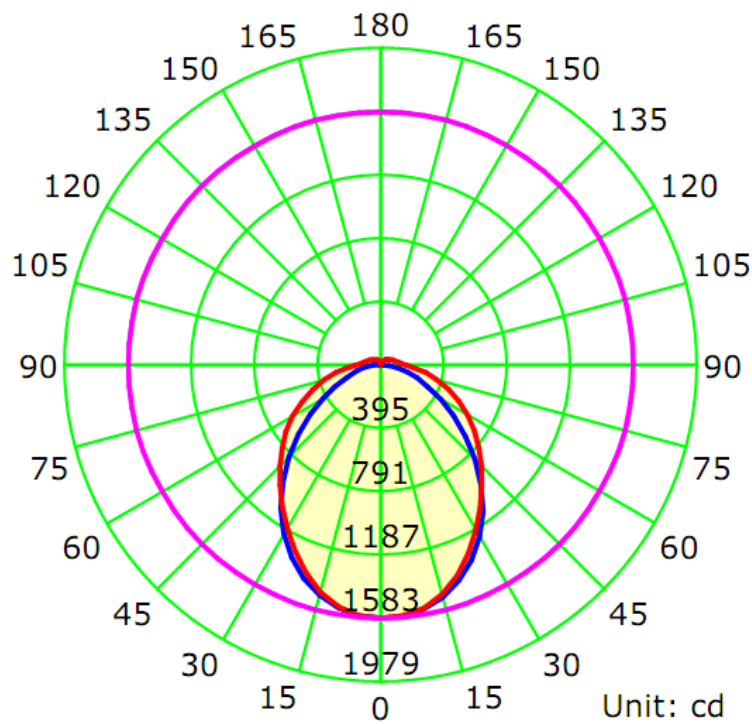
**Electrical Measurement**

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.3430	41	0.9960

**Photometric Measurement**

Luminous Flux (lm)	Efficacy (lm/W)	I <sub>max</sub> (cd)	S/MH (C0/180)	S/MH (C90/270)
4297.7	104.82	1583.8	1.16	1.13

**Luminous Intensity Distribution**



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I <sub>max</sub> ):	92.5	94.2	101.8	94.3	95.7
Field Angle (10% I <sub>max</sub> ):	150.9	172.1	180.2	172.0	168.8

Luminous Intensity (cd) Distribution Data

C y	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	1584	1584	1584	1584	1584	1584	1584	1584
5.0°	1577	1576	1576	1575	1575	1574	1574	1574
10.0°	1550	1549	1549	1547	1546	1546	1546	1545
15.0°	1502	1502	1498	1489	1486	1490	1494	1497
20.0°	1435	1435	1421	1406	1401	1406	1417	1428
25.0°	1347	1345	1323	1305	1298	1305	1319	1337
30.0°	1241	1237	1209	1195	1192	1194	1207	1229
35.0°	1117	1113	1086	1085	1088	1086	1084	1104
40.0°	980	977	963	977	987	978	960	970
45.0°	838	840	842	876	894	874	843	834
50.0°	696	705	729	779	804	777	730	701
55.0°	559	579	624	690	718	686	626	577
60.0°	436	466	528	603	631	600	529	464
65.0°	330	367	442	519	540	515	442	365
70.0°	240	286	364	436	451	431	362	283
75.0°	168	218	295	355	365	350	292	216
80.0°	110	160	231	279	287	275	228	157
85.0°	57	107	168	209	212	204	165	104
90.0°	2	61	119	154	158	152	117	58
95.0°	2	49	98	125	130	124	95	47
100.0°	2	44	86	108	112	107	83	42
105.0°	2	40	76	96	100	94	73	38
110.0°	2	34	67	85	89	84	65	32
115.0°	2	32	60	79	83	78	58	30
120.0°	3	28	51	66	71	65	49	27
125.0°	4	26	46	59	64	58	45	25
130.0°	4	24	42	54	58	53	41	23
135.0°	4	23	39	49	52	49	37	21
140.0°	5	21	35	44	47	44	34	20
145.0°	6	20	32	40	42	40	30	17
150.0°	6	18	28	35	37	35	27	16
155.0°	7	17	25	31	32	30	22	15
160.0°	7	15	22	26	27	25	18	13
165.0°	7	13	18	21	22	20	15	11
170.0°	7	11	14	17	17	15	12	10
175.0°	7	9	11	12	12	10	10	8
180.0°	0	0	0	0	0	0	0	0

Luminous Intensity (cd) Distribution Data (cont.)

C y	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	1584	1584	1584	1584	1584	1584	1584	1584
5.0°	1573	1574	1574	1574	1575	1575	1577	1577
10.0°	1542	1545	1542	1539	1537	1540	1545	1550
15.0°	1491	1493	1485	1475	1470	1477	1489	1500
20.0°	1419	1420	1403	1387	1381	1391	1410	1428
25.0°	1326	1327	1304	1285	1280	1287	1310	1336
30.0°	1217	1216	1191	1178	1178	1181	1195	1226
35.0°	1092	1092	1072	1073	1080	1076	1075	1101
40.0°	956	959	953	971	984	975	956	966
45.0°	816	823	836	873	896	878	838	826
50.0°	675	693	727	781	810	785	729	693
55.0°	545	571	625	693	726	697	627	569
60.0°	425	462	531	606	639	610	535	459
65.0°	319	366	445	521	547	524	450	364
70.0°	230	285	365	434	454	439	371	283
75.0°	159	218	296	354	368	358	300	217
80.0°	104	160	232	280	290	281	235	159
85.0°	50	107	170	210	217	211	172	106
90.0°	1	61	120	155	160	155	121	60
95.0°	1	49	96	124	128	124	97	48
100.0°	1	43	84	106	110	106	84	43
105.0°	2	38	74	93	97	93	74	38
110.0°	2	32	64	82	87	83	64	32
115.0°	2	29	54	73	78	73	54	29
120.0°	3	26	49	64	69	64	49	26
125.0°	3	24	44	58	62	58	44	24
130.0°	3	22	40	52	56	52	40	22
135.0°	4	20	36	47	51	47	37	20
140.0°	4	18	32	42	45	42	33	18
145.0°	5	16	29	37	40	37	29	17
150.0°	6	14	25	33	35	33	26	16
155.0°	6	13	20	28	29	28	23	14
160.0°	6	11	17	23	24	24	19	13
165.0°	7	9	14	18	19	19	16	11
170.0°	7	8	11	13	14	15	13	9
175.0°	7	7	9	9	9	10	9	7
180.0°	0	0	0	0	0	0	0	0

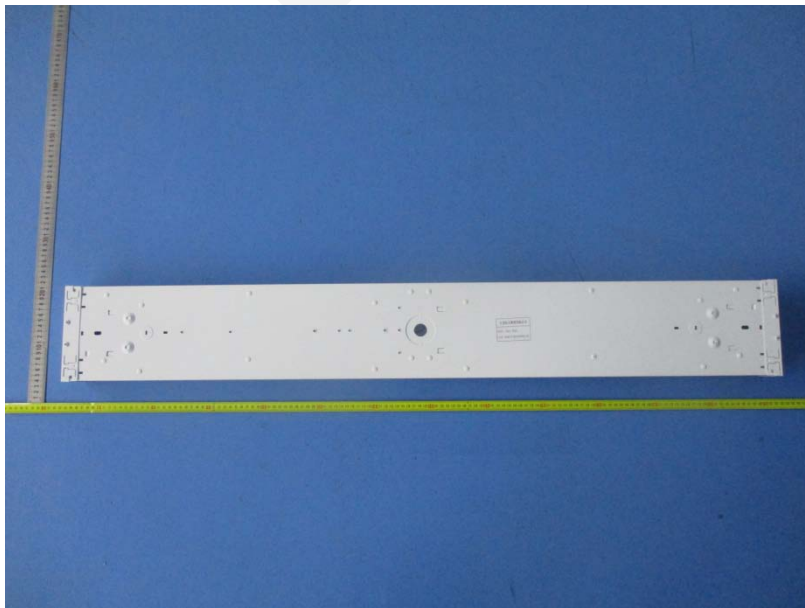
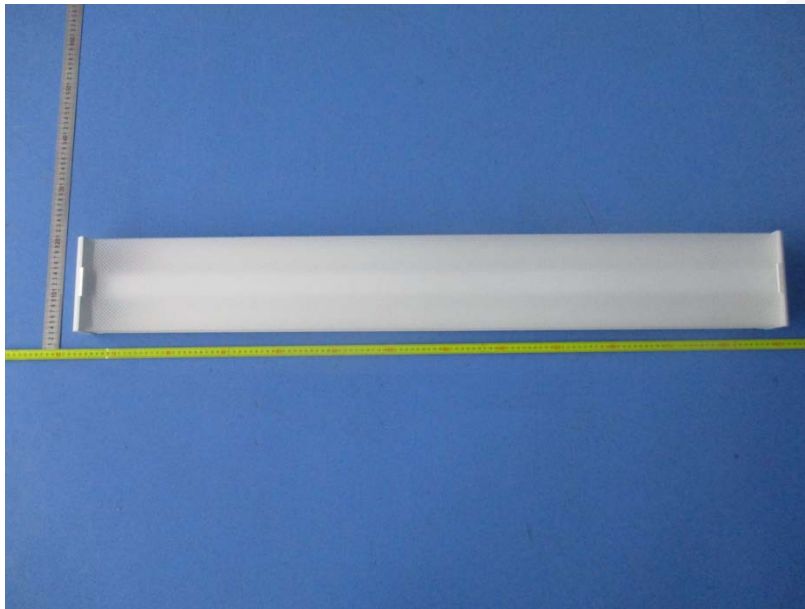
Zonal Lumen Density Measurement

Deg	Flux (lm)	%	Deg	Flux (lm)	%
0-5	32.1	0.77	0-5	32.1	0.77
0-5	37.8	0.88	0-5	37.8	0.88
5-10	111.6	2.60	0-10	149.4	3.48
10-15	180.0	4.19	0-15	329.4	7.66
15-20	239.1	5.56	0-20	568.5	13.23
20-25	285.9	6.65	0-25	854.4	19.88
25-30	318.9	7.42	0-30	1173.3	27.30
30-35	337.8	7.86	0-35	1511.1	35.16
35-40	343.5	7.99	0-40	1854.6	43.15
40-45	337.2	7.85	0-45	2191.8	51.00
45-50	321.3	7.48	0-50	2513.0	58.47
50-55	298.0	6.93	0-55	2811.0	65.41
55-60	269.2	6.26	0-60	3080.2	71.67
60-65	236.7	5.51	0-65	3316.9	77.18
65-70	202.0	4.70	0-70	3518.9	81.88
70-75	167.3	3.89	0-75	3686.3	85.77
75-80	133.7	3.11	0-80	3819.9	88.88
80-85	100.8	2.35	0-85	3920.7	91.23
85-90	70.6	1.64	0-90	3991.3	92.87
90-95	51.1	1.19	0-95	4042.4	94.06
95-100	42.4	0.99	0-100	4084.8	95.05
100-105	36.6	0.85	0-105	4121.4	95.90
105-110	31.5	0.73	0-110	4152.9	96.63
110-115	27.2	0.63	0-115	4180.1	97.26
115-120	23.1	0.54	0-120	4203.2	97.80
120-125	19.5	0.45	0-125	4222.8	98.26
125-130	16.7	0.39	0-130	4239.5	98.65
130-135	14.2	0.33	0-135	4253.7	98.98
135-140	11.8	0.27	0-140	4265.5	99.25
140-145	9.6	0.22	0-145	4275.1	99.47
145-150	7.6	0.18	0-150	4282.6	99.65
150-155	5.7	0.13	0-155	4288.4	99.78
155-160	4.1	0.10	0-160	4292.5	99.88
160-165	2.7	0.06	0-165	4295.2	99.94
165-170	1.6	0.04	0-170	4296.8	99.98
170-175	0.8	0.02	0-175	4297.6	100.00

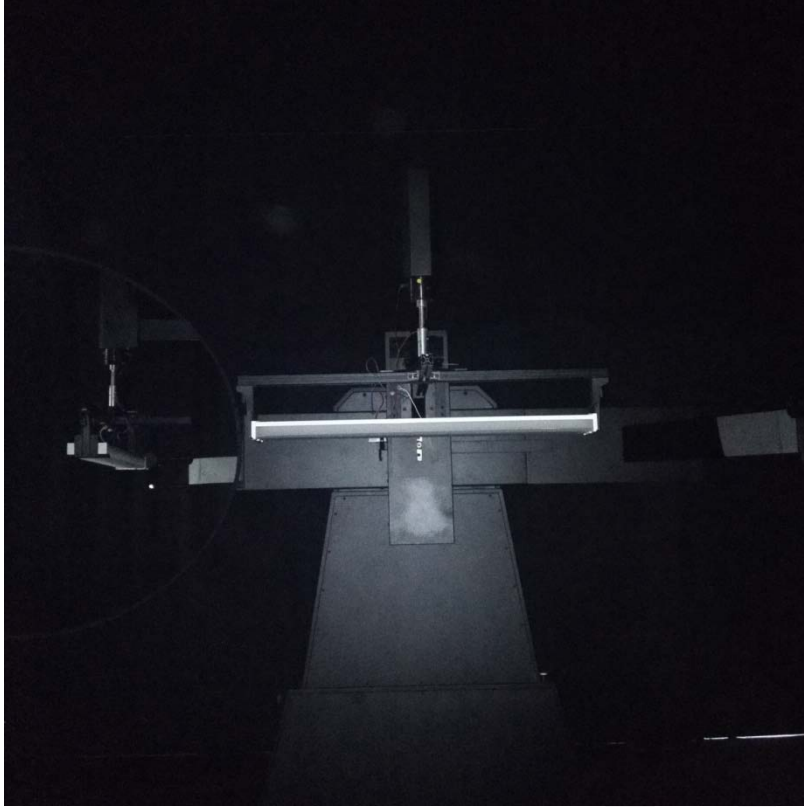
**[Additional Test]**

Test Item	Test Voltage (V)	Frequency (Hz)	Test Result
Power Factor:	240.0	60	0.9715
Total Harmonic Distortion:	240.0	60	9.26%
Total Harmonic Distortion:	120.0	60	7.13%
Total Harmonic Distortion:	277.0	60	9.73%
Power Factor:	277.0	60	0.9545

**6. Product Photo**



## 7. Product Test orientation in the Goniophotometer



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