



Report No.: BLC1803017E-K

## LM-79-08 Test Report

For

# Revolution Lighting Technologies, Inc.

(Brand Name:  Revolution  
Lighting)

2280 Ward Ave. Simi Valley, CA. 93065

## Outdoor Pole/Arm-Mounted Area and Roadway Luminaires

Model name(s): 1130SG-35T

Remark: S represents Sensor Options, can be 1 = N/A, 2 = 7-Pin Photocell, 9 = 3-Pin Photocell  
T represents CCT, can be 2=4000K, 4=5000K

Representative (Tested) Model: 1130SG-352  
1130SG-354

Model Different: All construction and rating are the same, except CCT

Test & Report By:

*Grace Li*

Engineer: Grace Li

Date: April.09, 2018

Review By:


*Tommy Liang*

Manager: Tommy Liang

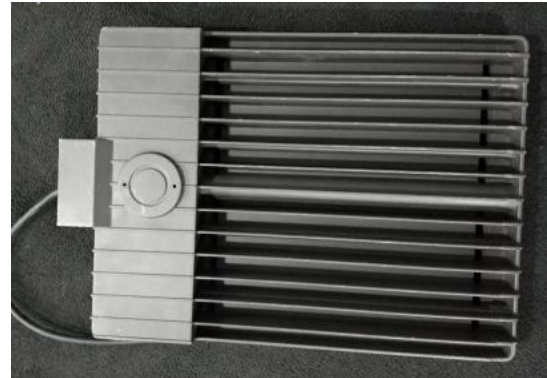
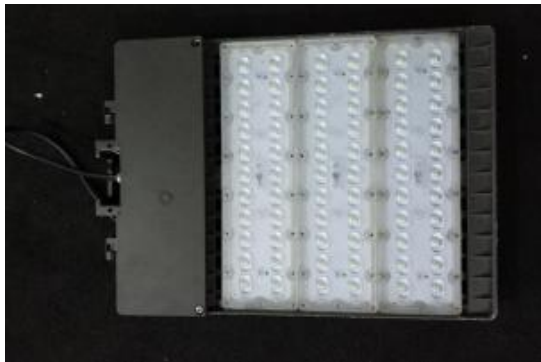


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### 1.1 Product Information:

Organization Name	Revolution Lighting Technologies, Inc.	
Brand Name		
Model Number	1130SG-35T	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires	
Rated Voltage / Frequency	100-277Vac, 50/60 Hz	
Nominal Power	215W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,5000K	
LED Manufacturer	Lumileds	
LED Model	LUXEON 3030 2D	
Sample Number	BLC1803017E-K1(4000K),K2(5000K)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

#### Photo



**1.2 Test Specifications:**

Date of Receipt	April.04,2018
Date of Test	April.08,2018
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 C78.377-2008 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	BL-QP-033

**1.3 Test Methods**

<p><b>1) Photometric and Light Distribution Measurement – Goniophotometer Method:</b> Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at <math>25^{\circ}\text{C} \pm 1^{\circ}\text{C}</math>, 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 <math>1^{\circ}</math> vertical intervals and <math>22.5^{\circ}</math> horizontal intervals.</p>
<p><b>2) Chromaticity Measurement – Sphere-Spectroradiometer Method:</b> Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at <math>25^{\circ}\text{C} \pm 1^{\circ}\text{C}</math>. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.</p>
<p><b>3) Electrical Measurements:</b> Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at <math>25^{\circ}\text{C} \pm 1^{\circ}\text{C}</math>. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.</p>

**2.1 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction BL-QP-033)*

<b>Test date</b>	2018-4-8	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	1130SG-352		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC180301	120.0	60	1.7911	213.69	0.9942	5.64
7E-K1	277.0	60	0.8911	222.8	0.9026	14.16
<b>DLC Pass Criteria</b>					<b>&gt;= 0.9(-3%)</b>	<b>&lt;= 20(+5)</b>

**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

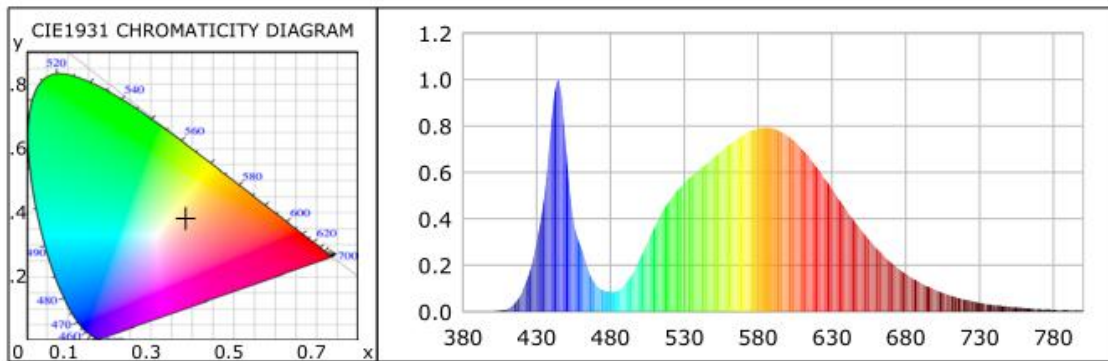
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	70	R9	0
Frequency (Hz)	60	R2	78	R10	48
CCT (K)	3910	R3	84	R11	69
Duv	-0.00036	R4	73	R12	45
Chromaticity (x, y)	x=0.3842 y=0.3783	R5	70	R13	71
Chromaticity (u', v')	u(u')=0.2270 v'(v')=0.5028	R6	69	R14	91
Color Rendering Index (CRI)	72.2	R7	80	R15	64
R9	0	R8	55	--	--

**Photometric Measurement – Goniophotometer Method:**

Parameter	Result		DLC V4.3 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	28893.6	30013.7	>=10000(-10%)
Luminous Efficacy (lm/W)	135.21	134.71	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	129.68		
Zonal lumens in the 0-90° zone (%)	99.7	--	>=100(-1)
Zonal lumens in the 80-90° zone (%)	0.3	--	<=10(+3)
Beam Angle (°)	124.1	--	--
Center Beam Candle Power (cd)	5944	--	--



## Spectral Power Distribution & Chromaticity Diagram



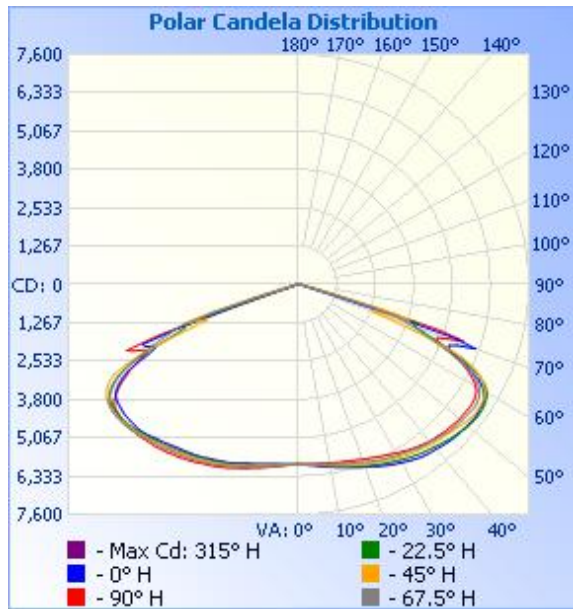
## Zonal Lumen Tabulation

Zonal Lumen Summary				Lumens Per Zone					
Zone	Lumens	% Lamp	% Luminaire	Zone	Lumens	% Total	Zone	Lumens	% Total
0-30	5,335.1	18.5%	18.5%	0-10	573.3	2.0%	90-100	18.4	0.1%
0-40	9,598.6	33.2%	33.2%	10-20	1,757.5	6.1%	100-110	13.9	0%
0-60	21,577.8	74.7%	74.7%	20-30	3,004.3	10.4%	110-120	13.7	0%
60-90	7,227.5	25%	25%	30-40	4,263.5	14.8%	120-130	12.6	0%
70-100	1,502.2	5.2%	5.2%	40-50	5,483.5	19.0%	130-140	9.6	0%
90-120	45.9	0.2%	0.2%	50-60	6,495.6	22.5%	140-150	7.7	0%
0-90	28,805.3	99.7%	99.7%	60-70	5,743.7	19.9%	150-160	5.9	0%
90-180	86.0	0.3%	0.3%	70-80	1,402.4	4.9%	160-170	3.2	0%
0-180	28,891.4	100%	100%	80-90	81.5	0.3%	170-180	1.1	0%





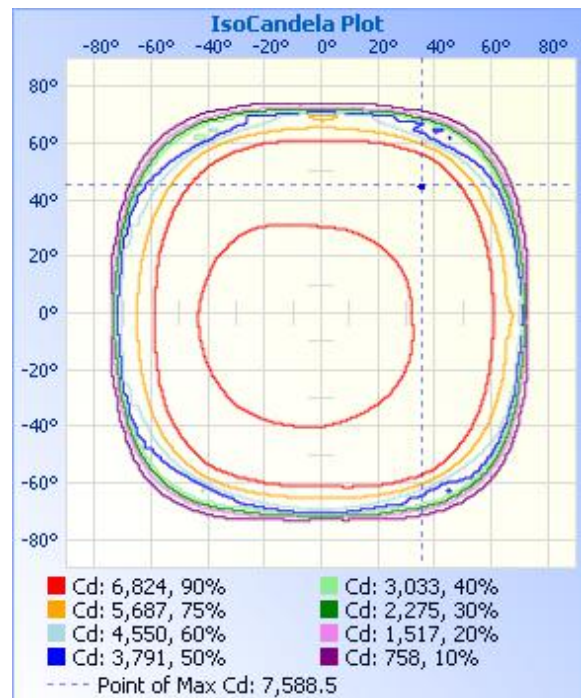
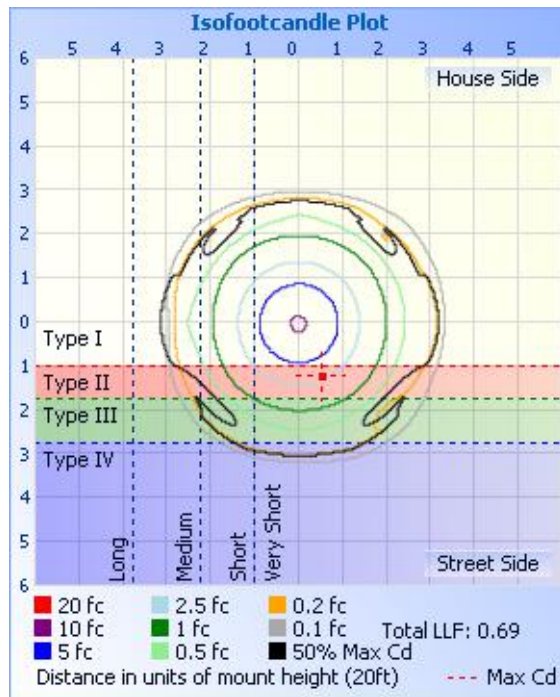
**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width	
17.0ft	20.6 fc	70.2 ft	64.1 ft
34.0ft	5.14 fc	140.4 ft	128.2 ft
51.0ft	2.29 fc	210.7 ft	192.3 ft
68.0ft	1.29 fc	280.9 ft	256.4 ft
85.0ft	0.82 fc	351.1 ft	320.5 ft
102.0ft	0.57 fc	421.3 ft	384.6 ft

■ Vert. Spread: 128.3°  
■ Horiz. Spread: 124.1°





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**Candela Table - Type C**

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	5944	5944	5944	5944	5944	5944	5944	5944	5944	5944	5944	5944	5944	5944	5944	5944	5944
1	5949	5946	5944	5944	5939	5933	5938	5940	5947	5948	5948	5949	5951	5947	5953	5950	5949
2	5961	5954	5953	5944	5940	5934	5935	5939	5952	5948	5952	5953	5959	5961	5959	5961	5961
3	5978	5961	5960	5950	5941	5933	5939	5941	5953	5956	5962	5965	5973	5971	5971	5981	5978
4	5997	5972	5971	5954	5945	5932	5939	5937	5961	5964	5967	5974	5991	5983	5986	5997	5997
5	6008	5981	5981	5964	5948	5935	5940	5943	5965	5975	5978	5990	6010	6003	6005	6011	6008
6	6030	5999	5996	5970	5954	5937	5943	5943	5969	5982	5993	6007	6030	6023	6025	6034	6030
7	6050	6016	6009	5982	5957	5943	5953	5948	5981	6003	6007	6023	6053	6047	6049	6057	6050
8	6074	6042	6029	5992	5966	5953	5969	5958	5992	6016	6025	6043	6073	6072	6070	6080	6074
9	6097	6059	6049	6009	5976	5967	5975	5975	6006	6040	6044	6069	6103	6093	6095	6108	6097
10	6125	6083	6069	6026	5985	5981	5991	5988	6026	6053	6072	6100	6133	6118	6121	6133	6125
11	6145	6107	6093	6043	5997	5991	6010	6004	6043	6073	6092	6121	6160	6144	6146	6160	6145
12	6172	6133	6114	6060	6012	6009	6022	6024	6063	6097	6117	6150	6193	6168	6174	6190	6172
13	6193	6154	6138	6080	6031	6032	6034	6045	6085	6120	6140	6179	6214	6201	6207	6222	6193
14	6219	6179	6167	6097	6032	6047	6056	6065	6106	6146	6171	6208	6248	6230	6238	6256	6219
15	6248	6211	6190	6121	6051	6067	6076	6088	6128	6175	6203	6240	6280	6264	6270	6290	6248
16	6277	6238	6215	6144	6065	6086	6096	6108	6158	6202	6228	6271	6313	6299	6302	6320	6277
17	6313	6272	6242	6165	6082	6110	6121	6136	6182	6230	6254	6298	6345	6330	6340	6357	6313
18	6346	6305	6264	6187	6101	6131	6145	6165	6214	6259	6286	6327	6377	6367	6378	6393	6346
19	6384	6340	6292	6216	6126	6159	6175	6193	6247	6290	6317	6358	6415	6397	6412	6424	6384
20	6415	6378	6318	6242	6150	6189	6201	6216	6282	6318	6346	6385	6454	6432	6447	6463	6415
21	6454	6412	6343	6274	6172	6213	6228	6252	6312	6340	6377	6415	6489	6468	6494	6498	6454
22	6485	6443	6371	6305	6195	6235	6256	6278	6335	6370	6409	6453	6521	6504	6533	6528	6485
23	6528	6477	6394	6335	6219	6262	6278	6309	6361	6398	6441	6489	6552	6536	6571	6566	6528
24	6571	6511	6424	6368	6248	6293	6307	6343	6381	6428	6466	6525	6586	6574	6611	6599	6571
25	6606	6542	6446	6396	6274	6323	6329	6373	6411	6452	6500	6562	6622	6601	6649	6632	6606
26	6652	6573	6473	6421	6310	6356	6359	6406	6434	6477	6530	6592	6650	6636	6676	6666	6652
27	6689	6601	6505	6447	6337	6384	6387	6432	6458	6512	6558	6618	6679	6665	6708	6699	6689
28	6726	6633	6534	6472	6364	6418	6407	6456	6495	6543	6582	6650	6704	6701	6741	6728	6726
29	6757	6661	6564	6498	6398	6443	6430	6482	6531	6569	6611	6673	6736	6734	6762	6758	6757

**Laboratory: Shenzhen Belling Test Laboratory    A2LA Certificate# 4810.01**  
**Building No3 3rd floor, room 303, No 2-10 south Jinlong avenue, Sand Lake community, Biling street, Pingshan district, Shenzhen, Guangdong,CN. Website: <http://www.blst.com>**

Report Format Number BL-FM-SA-012



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30	6795	6699	6596	6525	6438	6469	6456	6508	6557	6600	6638	6701	6775	6761	6787	6796	6795
31	6832	6732	6623	6540	6473	6494	6481	6535	6585	6629	6670	6732	6813	6797	6816	6828	6832
32	6872	6766	6657	6569	6504	6522	6506	6562	6610	6656	6705	6765	6846	6825	6847	6865	6872
33	6909	6799	6684	6594	6539	6544	6536	6588	6626	6690	6733	6794	6876	6856	6882	6898	6909
34	6943	6831	6709	6623	6574	6576	6565	6620	6658	6718	6754	6825	6908	6886	6914	6932	6943
35	6977	6858	6731	6654	6605	6607	6591	6639	6681	6744	6788	6855	6944	6921	6944	6964	6977
36	7006	6888	6751	6685	6637	6624	6621	6674	6703	6779	6819	6883	6967	6957	6983	7003	7006
37	7031	6921	6781	6715	6660	6649	6650	6699	6733	6812	6851	6908	6997	6989	7017	7042	7031
38	7054	6947	6805	6740	6696	6669	6686	6731	6768	6848	6878	6940	7032	7019	7059	7068	7054
39	7071	6972	6834	6765	6732	6695	6717	6763	6800	6880	6909	6976	7067	7055	7098	7098	7071
40	7081	6998	6858	6784	6754	6728	6752	6792	6838	6910	6938	7016	7091	7092	7131	7128	7081
41	7117	7035	6885	6809	6779	6747	6782	6822	6878	6943	6977	7049	7124	7126	7169	7157	7117
42	7140	7062	6914	6834	6786	6776	6803	6861	6903	6975	7025	7076	7161	7151	7210	7187	7140
43	7159	7095	6930	6866	6805	6810	6825	6890	6945	7012	7060	7104	7168	7177	7254	7224	7159
44	7184	7128	6951	6892	6830	6841	6853	6925	6993	7036	7098	7137	7190	7206	7286	7251	7184
45	7204	7152	6980	6924	6852	6863	6879	6958	7033	7069	7130	7169	7211	7237	7328	7274	7204
46	7216	7177	7002	6951	6858	6889	6915	6992	7070	7107	7166	7208	7239	7271	7360	7295	7216
47	7232	7200	7037	6967	6878	6920	6945	7023	7097	7144	7203	7250	7264	7301	7392	7318	7232
48	7243	7231	7071	6989	6902	6953	6984	7041	7123	7190	7241	7287	7280	7337	7424	7350	7243
49	7255	7263	7101	7000	6919	6977	7019	7064	7136	7226	7279	7323	7306	7369	7465	7371	7255
50	7264	7289	7132	7010	6924	6993	7056	7093	7140	7259	7309	7356	7320	7387	7494	7392	7264
51	7272	7307	7162	7023	6929	7016	7098	7128	7152	7289	7338	7381	7340	7405	7524	7411	7272
52	7287	7328	7185	7041	6935	7046	7113	7162	7161	7316	7363	7397	7342	7416	7546	7424	7287
53	7295	7340	7214	7050	6943	7070	7147	7179	7168	7327	7397	7416	7342	7438	7568	7431	7295
54	7281	7343	7226	7072	6951	7104	7173	7190	7168	7343	7416	7423	7326	7438	7578	7437	7281
55	7268	7342	7232	7085	6959	7114	7205	7203	7154	7348	7428	7429	7319	7421	7588	7442	7268
56	7259	7325	7221	7080	6944	7124	7228	7208	7144	7348	7430	7430	7311	7415	7585	7437	7259
57	7247	7308	7212	7051	6928	7108	7227	7202	7130	7340	7426	7414	7258	7396	7564	7418	7247
58	7211	7279	7195	7025	6897	7076	7219	7173	7102	7310	7408	7377	7158	7362	7520	7378	7211
59	7156	7238	7154	6972	6845	7035	7192	7121	7042	7268	7374	7299	7031	7275	7448	7325	7156
60	7059	7170	7089	6885	6756	6980	7142	7036	6939	7193	7312	7177	6875	7141	7364	7240	7059
61	6928	7076	6998	6769	6632	6895	7067	6922	6779	7078	7246	7033	6681	6972	7277	7125	6928

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62	6735	6925	6889	6608	6462	6758	6963	6772	6581	6921	7147	6858	6452	6755	7142	6956	6735
63	6472	6709	6731	6384	6282	6570	6810	6556	6335	6703	6988	6641	6257	6496	6950	6703	6472
64	6194	6445	6545	6100	6049	6337	6595	6235	5961	6419	6755	6359	5977	6189	6683	6391	6194
65	5855	6083	6258	5764	5774	6027	6297	5869	5494	6040	6343	6032	5703	5857	6357	6012	5855
66	5557	5671	5863	5365	5474	5667	5841	5404	5197	5457	5697	5692	5484	5476	5800	5610	5557
67	5375	5215	5227	4941	5189	5219	5150	4937	5204	4870	4850	5343	5514	5095	4966	5240	5375
68	5357	4807	4382	4607	4929	4771	4170	4591	5456	4383	3845	4951	5865	4697	3989	4894	5357
69	5602	4447	3403	4301	4899	4301	3244	4276	5512	4053	3222	4598	6083	4220	3129	4566	5602
70	6212	4127	2608	3962	5260	3873	2785	4073	4215	3991	3461	4360	4959	3885	2957	4329	6212
71	5566	4016	2811	3652	5736	3719	3375	3519	2220	3251	3934	3944	2543	3596	3979	4377	5566
72	2950	4106	3829	3374	4919	3674	3775	2066	910	1835	3083	2915	862	2569	3931	3803	2950
73	834	2670	3356	2303	2664	2779	2642	1011	391	921	1881	1519	396	1414	2477	2088	834
74	349	1359	1918	1224	970	1580	1588	581	262	536	1116	862	277	775	1335	993	349
75	258	747	1104	687	403	914	941	387	219	374	681	532	216	521	839	555	258
76	234	452	694	455	260	598	599	286	189	289	452	384	175	382	551	360	234
77	216	316	483	324	208	425	369	226	161	232	298	290	149	287	384	265	216
78	191	251	350	256	173	322	266	187	142	195	225	235	144	229	280	221	191
79	171	208	274	212	156	255	214	163	128	160	198	201	107	200	218	186	171
80	154	175	207	182	136	222	182	139	102	141	162	173	106	169	181	153	154
81	136	150	173	155	113	188	154	108	100	120	142	149	96	150	141	130	136
82	103	144	148	132	97	158	131	92	81	102	107	120	79	133	120	123	103
83	101	111	117	118	84	123	106	82	61	82	94	102	76	116	106	108	101
84	80	106	105	94	84	97	78	71	52	66	75	91	53	83	84	76	80
85	73	87	77	79	62	79	71	49	38	56	65	61	41	80	69	74	73
86	59	65	65	66	55	51	41	45	31	48	49	59	46	56	57	58	59
87	45	62	51	57	44	36	38	32	28	39	37	43	30	51	46	43	45
88	37	48	42	41	29	41	30	32	22	36	21	36	23	37	32	36	37
89	18	30	34	28	20	31	28	29	22	32	24	25	14	34	21	32	18
90	24	36	15	30	0	19	16	22	20	27	26	20	0	27	23	26	24
91	25	33	26	21	0	17	23	16	14	30	27	13	0	23	22	25	25
92	18	24	32	20	0	17	15	21	16	26	18	19	0	22	27	24	18
93	25	37	18	21	13	14	17	28	0	18	22	19	0	12	24	22	25

**Laboratory: Shenzhen Belling Test Laboratory    A2LA Certificate# 4810.01**  
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94	18	34	21	16	0	19	16	16	16	25	19	15	0	20	19	24	18
95	15	25	19	14	0	20	16	21	0	27	22	18	0	17	24	25	15
96	17	29	20	13	0	17	17	18	0	31	20	15	0	13	17	17	17
97	14	28	18	14	0	15	0	23	18	30	20	15	0	19	16	16	14
98	17	28	17	13	0	14	13	23	14	24	18	13	0	16	25	14	17
99	17	29	14	14	0	11	0	15	12	25	20	14	0	13	12	25	17
100	14	22	17	22	0	16	12	20	14	27	19	13	0	14	17	20	14
101	14	26	14	12	0	0	15	22	0	21	18	15	0	11	18	11	14
102	14	23	19	15	0	14	11	23	0	26	18	14	0	0	17	12	14
103	17	21	12	0	0	14	14	19	15	26	22	15	0	0	18	18	17
104	0	23	12	13	0	14	0	20	11	28	16	21	0	14	12	0	0
105	12	23	17	0	0	14	0	21	15	33	21	15	0	12	17	13	12
106	0	24	15	16	0	11	12	22	0	21	17	20	0	0	17	19	0
107	0	22	13	0	0	17	14	24	17	26	19	13	0	14	13	21	0
108	14	25	12	12	0	14	11	21	16	21	26	19	0	0	14	17	14
109	0	22	18	17	0	15	15	18	12	25	21	12	0	11	14	19	0
110	13	26	12	14	0	20	15	20	17	24	16	21	0	13	11	17	13
111	0	26	16	0	0	0	17	25	15	30	21	17	0	13	15	12	0
112	16	21	14	14	0	17	18	16	15	32	17	20	0	0	19	13	16
113	17	27	0	13	0	12	20	21	0	26	23	12	11	0	0	21	17
114	0	25	20	20	0	19	21	20	13	25	26	12	0	13	14	20	0
115	20	18	18	14	0	18	0	20	16	27	23	19	0	0	16	14	20
116	14	23	18	11	0	0	20	19	13	26	18	19	0	11	13	19	14
117	15	0	16	0	0	0	17	23	14	26	21	18	0	14	12	19	15
118	16	21	16	0	0	14	16	18	16	19	22	17	0	0	21	17	16
119	15	26	14	16	0	15	12	13	13	21	15	20	0	16	17	20	15
120	14	21	20	0	0	17	21	18	15	26	23	14	0	0	16	15	14
121	12	28	15	0	0	16	15	18	16	25	24	14	0	13	14	18	12
122	13	27	0	11	0	11	12	18	13	25	16	18	0	13	16	21	13
123	18	29	18	0	0	14	18	0	14	26	27	20	0	15	17	18	18
124	16	31	13	0	0	15	0	22	0	32	19	18	0	13	18	13	16
125	16	20	13	0	0	11	14	16	12	30	30	14	0	14	14	19	16

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126	15	33	16	14	0	15	16	25	19	18	29	14	0	14	20	17	15
127	13	27	14	0	0	16	12	17	0	26	22	17	0	0	17	18	13
128	0	25	19	12	0	0	17	21	0	26	21	22	0	12	15	15	0
129	18	25	17	12	0	12	18	19	11	26	22	15	0	15	13	17	18
130	16	19	14	15	0	12	12	20	11	24	20	21	0	0	18	19	16
131	0	29	14	16	0	0	21	19	16	33	21	15	0	0	19	14	0
132	18	23	15	12	0	12	12	15	14	26	20	16	0	0	18	21	18
133	0	25	19	16	0	12	13	19	17	22	15	16	0	16	15	14	0
134	16	27	11	0	0	0	0	14	0	26	19	17	0	0	14	21	16
135	16	18	16	0	0	12	15	18	15	16	17	17	0	0	16	13	16
136	14	24	0	11	0	16	12	23	0	23	15	13	0	0	19	15	14
137	13	30	12	13	0	0	0	22	13	27	18	0	0	0	13	13	13
138	0	25	12	16	0	13	0	17	14	17	13	0	0	13	16	18	0
139	12	31	20	11	0	13	0	17	17	17	22	16	0	15	17	16	12
140	21	21	13	15	0	14	0	17	0	18	24	14	0	0	19	19	21
141	14	26	13	11	0	14	0	15	0	20	25	0	0	0	16	23	14
142	17	25	17	0	0	16	0	17	20	25	20	0	0	14	15	15	17
143	15	26	18	13	0	0	19	13	15	24	17	0	0	14	15	11	15
144	12	23	20	14	0	11	11	15	16	24	21	16	0	0	18	19	12
145	13	27	12	11	0	0	0	18	19	23	23	16	0	20	14	13	13
146	14	20	12	13	0	0	0	14	12	22	18	0	0	15	18	19	14
147	12	22	22	0	0	0	0	16	19	27	15	12	0	14	17	11	12
148	15	23	14	12	0	13	13	11	17	18	18	0	0	16	15	21	15
149	17	27	17	14	0	0	0	16	18	17	18	0	0	12	0	22	17
150	14	24	15	16	0	12	14	15	0	22	19	0	0	13	23	17	14
151	15	32	14	0	0	14	0	15	18	27	16	12	0	16	20	18	15
152	15	26	17	13	0	0	12	18	16	26	14	0	0	0	16	23	15
153	20	32	17	17	0	0	14	16	12	28	22	13	0	15	19	22	20
154	15	29	21	13	0	11	0	0	16	20	17	14	0	13	15	15	15
155	16	22	13	14	0	0	13	15	13	24	21	13	0	15	18	23	16
156	12	36	11	16	0	0	0	16	14	25	21	0	0	13	22	19	12
157	17	26	14	18	0	13	0	15	0	18	20	14	0	12	18	20	17

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158	20	20	16	14	0	13	0	12	12	22	21	12	0	0	16	16	20
159	0	28	16	14	0	0	0	13	0	29	17	15	0	13	0	16	0
160	16	25	18	14	0	17	0	17	0	22	15	11	0	0	11	19	16
161	13	31	12	0	0	0	0	0	15	26	18	0	0	15	14	21	13
162	13	24	15	0	0	15	11	18	0	21	18	13	0	0	15	14	13
163	0	31	0	0	0	16	0	19	17	26	21	15	0	0	13	20	0
164	13	25	18	13	0	12	0	13	15	23	15	11	0	15	16	21	13
165	0	31	19	0	0	0	0	13	0	26	22	0	0	0	15	20	0
166	14	22	18	16	0	0	0	13	15	24	15	15	0	0	19	0	14
167	16	29	20	15	0	13	15	20	17	21	19	11	0	13	12	0	16
168	17	24	18	0	0	17	0	14	0	24	18	13	0	0	15	20	17
169	12	31	15	0	0	0	0	19	11	25	14	13	0	15	17	19	12
170	12	30	18	0	0	13	0	19	14	22	23	11	0	12	19	24	12
171	0	26	23	13	0	15	0	18	0	23	20	16	0	14	17	16	0
172	0	25	21	0	0	0	0	16	16	24	11	11	0	0	12	13	0
173	15	25	17	15	0	0	18	19	11	26	20	16	0	0	18	22	15
174	0	29	15	0	0	15	11	16	20	24	20	13	0	0	20	20	0
175	14	27	15	0	0	12	0	18	0	18	14	11	0	15	13	20	14
176	15	32	20	13	0	0	13	17	0	28	14	0	0	12	0	13	15
177	18	23	12	0	0	0	0	0	13	25	18	15	0	12	0	17	18
178	15	28	14	0	0	0	0	16	0	23	20	0	0	14	0	16	15
179	0	19	17	0	0	0	0	19	13	24	20	0	0	0	14	15	0
180	0	25	12	11	0	0	0	13	15	23	19	11	0	13	15	21	0

**2.2 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction BL-QP-033)*

<b>Test date</b>	2018-4-8	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	1130SG-354		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC180301	120.0	60	1.7928	213.82	0.9939	6.01
7E-K2	277.0	60	0.8826	220.5	0.9019	14.33
<b>DLC Pass Criteria</b>					<b>&gt;= 0.9(-3%)</b>	<b>&lt;= 20(+5)</b>

**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	72	R9	0
Frequency (Hz)	60	R2	78	R10	48
CCT (K)	4895	R3	83	R11	72
Duv	0.00105	R4	75	R12	44
Chromaticity (x, y)	x=0.3484 y=0.3563	R5	72	R13	72
Chromaticity (u', v')	u(u')=0.2118 v'(v')=0.4874	R6	70	R14	90
Color Rendering Index (CRI)	74	R7	82	R15	67
R9	0	R8	60	--	--

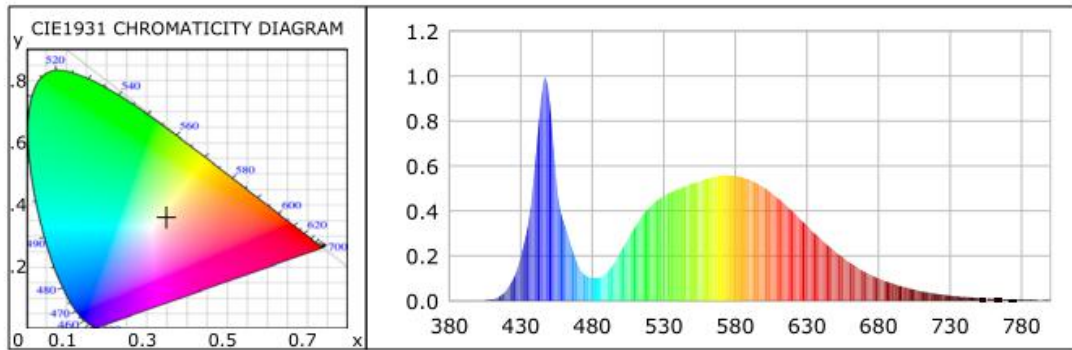
**Photometric Measurement – Sphere-Spectroradiometer Method:**

Parameter	Result		DLC V4.3 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	29430.18	30221.73	>=10000(-10%)
Luminous Efficacy (lm/W)	137.64	137.06	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	133.47		



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## Spectral Power Distribution & Chromaticity Diagram







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### 3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2019-01-15
AC Power Source	CHP-500C	N/A	2019-01-14
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2019-01-22
Digital Power Meter	WT500	DYDWQ200006	2019-01-14
Integral Sphere (2M)	2M	DYJCE120067	2019-01-15
Digital Power Meter	WT500	DYDWQ200006	2019-01-14
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2019-01-15

Expand Uncertainty:  
Photometric Measurement (Sphere): 2.04%, k=2  
Chromaticity Measurement(Sphere):28.8K, k=2  
Photometric Measurement(Goniophotometer):2.7%, k=2

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