



Report No.:
BLC1811028E-D-PL

LM-79-08 Test Report

For

Revolution Lighting Technologies, Inc.

(Brand Name: Revolution Lighting Technologies)

2280 Ward Ave. Simi Valley, CA. 93065

Outdoor Full-Cutoff Wall-Mounted Area Luminaires

Model name(s): 282405-01X

Remark: The Suffix X represents for CCT, could be 3=4000K, 4=4500K, 5=5000K,
6=5700K.

Representative (Tested) Model:

282405-013

282405-016

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

Test & Report By:

Jason Luo

Engineer: Jason Luo

Date: Dec 03, 2018

Review By:

Grace Li

Manager: Grace Li

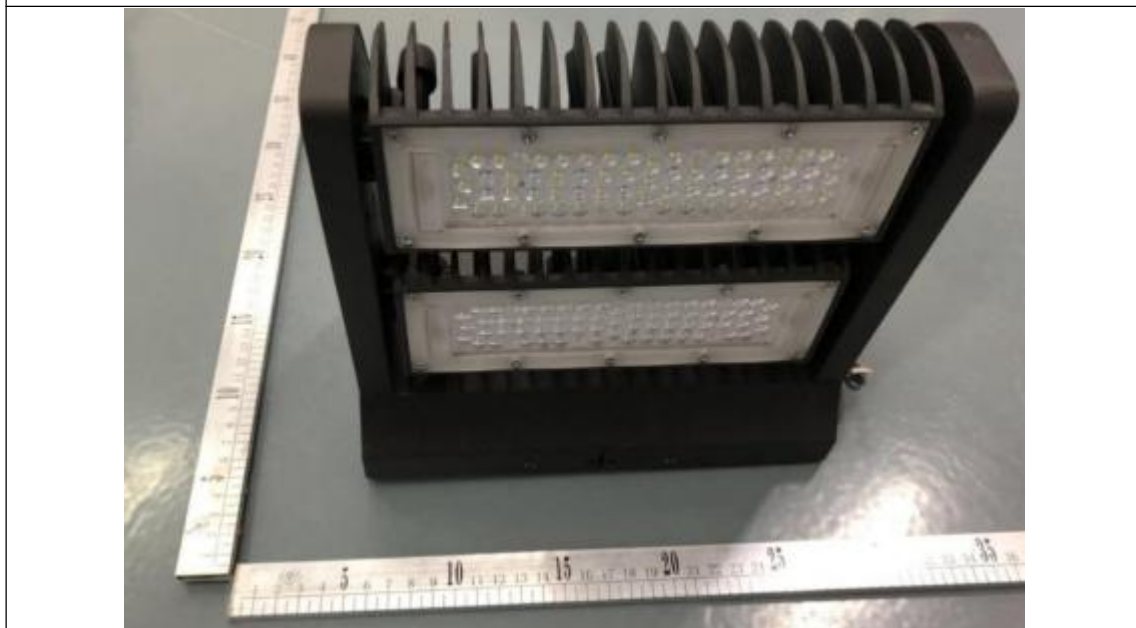


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1.1 Product Information:

Organization Name	Revolution Lighting Technologies, Inc.	
Brand Name	Revolution Lighting Technologies	
Model Number	282405-01X	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Full-Cutoff Wall-Mounted Area Luminaires	
Rated Voltage / Frequency	100-277Vac, 50/60 Hz	
Nominal Power	80W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,4500K,5000K,5700K	
LED Manufacturer	Seoul Semiconductor Co., LTD	
LED Model	3030B	
Sample Number	BLC1811028E-D-PL1(4000K),D-PL2(5700K)	
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	Dec 30,2017
Date of Test	Jan 07,2018
Test item	<ol style="list-style-type: none">1. Total Luminous Flux2. Luminous Distribution Intensity3. Luminous Efficacy4. Correlated Color Temperature5. Color Rendering Index6. Chromaticity Coordinate7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none">1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources4. CIE 15-2004 Technical Report Colorimetry5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	BL-QP-033

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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2018-1-07	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	282405-013		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC181102	120.0	60	0.6621	79.18	0.9966	5.15
8E-D-PL1	277.0	60	0.2933	76.53	0.9421	13.28
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

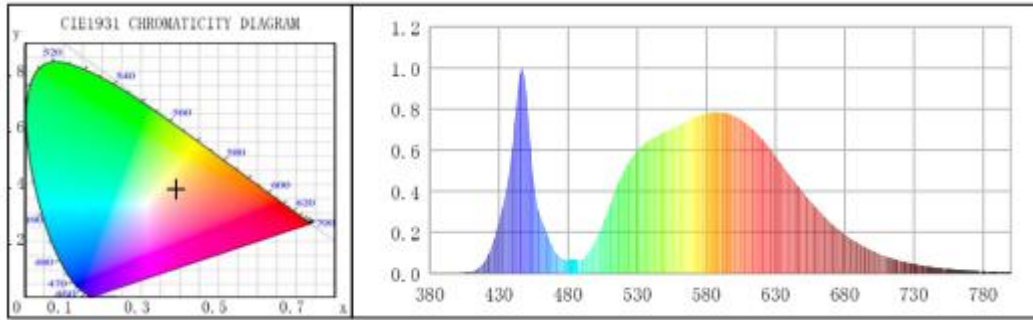
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	71	R9	0
Frequency (Hz)	60	R2	77	R10	45
CCT (K)	3800	R3	81	R11	69
Duv	0.00032	R4	73	R12	39
Chromaticity (x, y)	x=0.3899 y=0.3832	R5	70	R13	72
Chromaticity (u', v')	u(u')=0.2288 v'(v')=0.5058	R6	68	R14	89
Color Rendering Index (CRI)	72.4	R7	81	R15	67
R9	0	R8	58	--	--

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)	10058.7	10008.4	>=10000(-10%)
Luminous Efficacy (lm/W)	127.04	130.78	Premium: >= 120(-3%)
Most worst Luminous/Highest	126.4		
Zonal lumens in the 0-90° zone (%)	99.7	--	>=100(-3)
Zonal lumens in the 80-90° zone (%)	0.2	--	<=10(+3)
Beam Angle (°)	66.4	--	--
Center Beam Candle Power (cd)	8551	--	--



Spectral Power Distribution & Chromaticity Diagram

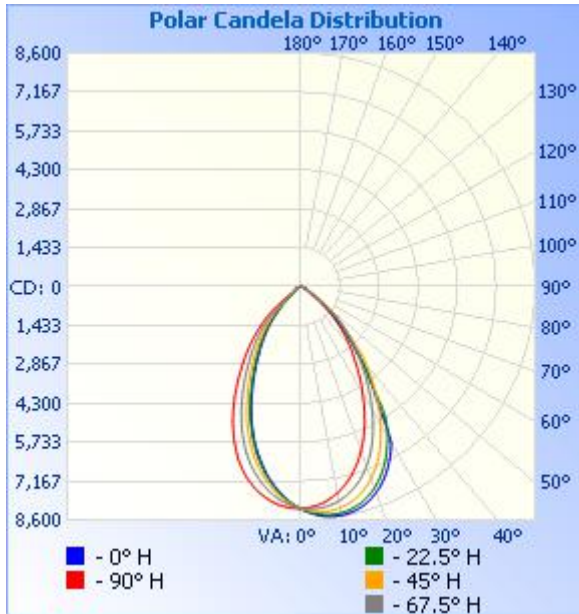


Zonal Lumen Tabulation

Zonal Lumen Summary				Lumens Per Zone					
Zone	Lumens	% Lamp	% Luminaire	Zone	Lumens	% Total	Zone	Lumens	% Total
0-30	5,455.5	54.2%	54.2%	0-10	762.4	7.6%	90-100	3.9	0%
0-40	7,807.1	77.6%	77.6%	10-20	2,045.9	20.3%	100-110	3.2	0%
0-60	9,772.9	97.1%	97.2%	20-30	2,647.2	26.3%	110-120	3.3	0%
60-90	259.0	2.6%	2.6%	30-40	2,351.6	23.4%	120-130	4.1	0%
70-100	102.4	1%	1%	40-50	1,455.1	14.5%	130-140	4.4	0%
90-120	10.4	0.1%	0.1%	50-60	510.8	5.1%	140-150	3.6	0%
0-90	10,031.9	99.7%	99.7%	60-70	160.4	1.6%	150-160	2.3	0%
90-180	26.9	0.3%	0.3%	70-80	76.9	0.8%	160-170	1.5	0%
0-180	10,058.7	100%	100%	80-90	21.7	0.2%	170-180	0.5	0%



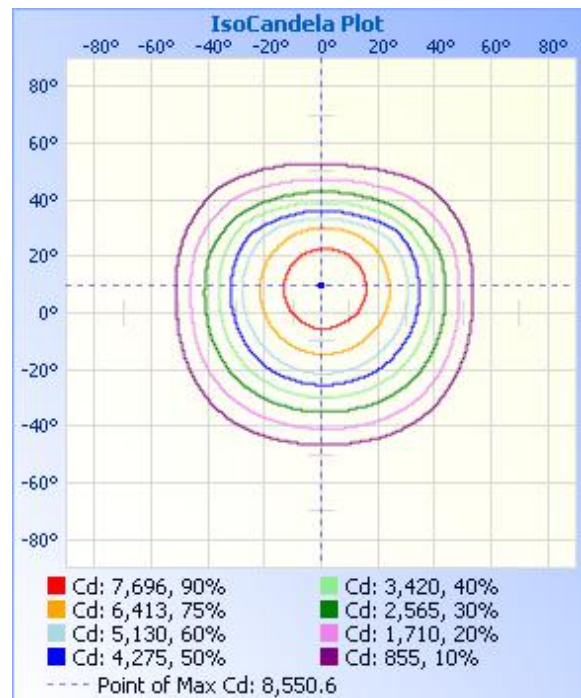
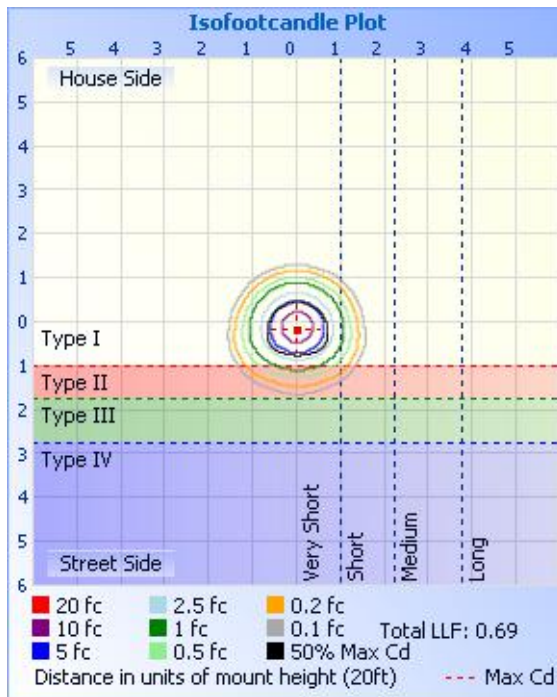
Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width	
17.0ft	28.3 fc	20.2 ft	22.3 ft
34.0ft	7.09 fc	40.5 ft	44.5 ft
51.0ft	3.15 fc	60.7 ft	66.8 ft
68.0ft	1.77 fc	80.9 ft	89.1 ft
85.0ft	1.13 fc	101.1 ft	111.3 ft
102.0ft	0.79 fc	121.4 ft	133.6 ft

■ Vert. Spread: 61.5°
■ Horiz. Spread: 66.4°





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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	8190	8190	8190	8190	8190	8190	8190	8190	8190	8190	8190	8190	8190	8190	8190	8190	8190
1	8267	8245	8220	8180	8162	8148	8128	8115	8117	8107	8118	8133	8175	8216	8246	8263	8267
2	8327	8310	8255	8194	8141	8100	8063	8034	8031	8031	8055	8095	8169	8239	8293	8319	8327
3	8383	8350	8286	8197	8122	8051	7986	7947	7939	7943	7991	8046	8155	8251	8327	8377	8383
4	8435	8393	8307	8198	8087	7987	7906	7843	7832	7855	7912	7994	8133	8260	8358	8416	8435
5	8474	8421	8325	8185	8043	7918	7810	7743	7725	7748	7825	7938	8105	8263	8379	8453	8474
6	8502	8447	8335	8164	7993	7845	7712	7633	7602	7640	7733	7864	8073	8253	8396	8483	8502
7	8526	8465	8331	8141	7936	7753	7607	7506	7481	7527	7634	7790	8027	8241	8401	8500	8526
8	8544	8472	8318	8108	7874	7657	7492	7380	7356	7406	7518	7711	7979	8217	8400	8515	8544
9	8549	8473	8302	8065	7789	7562	7363	7253	7223	7264	7407	7622	7915	8187	8394	8519	8549
10	8551	8464	8277	8013	7712	7456	7236	7112	7080	7131	7285	7517	7848	8151	8378	8513	8551
11	8548	8449	8237	7953	7625	7332	7104	6958	6922	6990	7147	7415	7777	8109	8353	8504	8548
12	8527	8425	8198	7889	7520	7210	6948	6804	6768	6825	7015	7296	7700	8050	8325	8485	8527
13	8505	8390	8149	7808	7416	7080	6801	6648	6592	6672	6874	7175	7612	7990	8285	8459	8505
14	8470	8344	8083	7726	7302	6930	6644	6464	6429	6510	6729	7053	7506	7928	8232	8423	8470
15	8422	8294	8013	7637	7185	6788	6483	6294	6258	6344	6572	6920	7407	7841	8179	8375	8422
16	8372	8235	7937	7529	7044	6636	6302	6120	6084	6156	6400	6782	7296	7761	8110	8322	8372
17	8315	8158	7852	7421	6907	6478	6130	5940	5903	5978	6234	6626	7178	7669	8041	8259	8315
18	8244	8074	7744	7302	6770	6295	5955	5741	5701	5800	6049	6478	7035	7568	7956	8186	8244
19	8157	7987	7640	7175	6601	6125	5754	5552	5512	5596	5875	6317	6904	7454	7861	8098	8157
20	8068	7894	7527	7029	6443	5948	5574	5361	5315	5407	5693	6134	6760	7328	7763	8014	8068
21	7974	7770	7390	6885	6274	5766	5376	5162	5095	5215	5511	5959	6593	7197	7644	7914	7974
22	7865	7656	7257	6733	6098	5561	5184	4944	4894	5016	5321	5780	6434	7062	7526	7805	7865
23	7741	7528	7119	6568	5900	5370	4970	4744	4692	4800	5113	5600	6267	6895	7392	7672	7741
24	7611	7393	6965	6382	5715	5161	4774	4521	4472	4600	4918	5395	6099	6739	7254	7547	7611
25	7478	7231	6786	6204	5525	4964	4577	4322	4268	4401	4705	5211	5900	6575	7095	7410	7478
26	7318	7083	6620	6026	5313	4767	4362	4122	4072	4187	4512	5017	5721	6390	6941	7252	7318
27	7165	6915	6441	5820	5118	4573	4165	3929	3875	3992	4318	4830	5541	6217	6776	7096	7165
28	6998	6725	6240	5628	4928	4380	3972	3738	3684	3803	4129	4618	5332	6033	6584	6930	6998
29	6822	6541	6047	5430	4710	4174	3765	3534	3480	3598	3920	4432	5139	5842	6403	6739	6822

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Certificate#4810.01

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32	5708	5928	5437	4807	4141	3600	3229	2992	2941	3077	3382	3851	4536	5237	5798	6100	5708
33	5253	5664	5206	4608	3948	3420	3064	2835	2787	2919	3214	3667	4340	5013	5586	5594	5253
34	4916	5245	4996	4393	3740	3251	2903	2681	2633	2751	3040	3496	4150	4817	5378	5116	4916
35	4675	4778	4784	4196	3559	3087	2735	2513	2469	2599	2890	3306	3959	4610	5169	4720	4675
36	4406	4352	4551	4006	3364	2917	2591	2367	2324	2458	2731	3144	3750	4409	4937	4476	4406
37	4131	4095	4345	3807	3194	2767	2429	2228	2186	2307	2595	2992	3568	4186	4723	4206	4131
38	3912	3844	4141	3604	3028	2601	2288	2088	2055	2167	2453	2830	3399	3993	4518	3951	3912
39	3574	3593	3911	3423	2871	2458	2145	1934	1900	2031	2317	2684	3209	3795	4197	3718	3574
40	3218	3368	3717	3247	2714	2312	2002	1791	1758	1894	2175	2546	3051	3589	3827	3470	3218
41	2995	3164	3519	3076	2546	2169	1847	1641	1613	1731	2020	2396	2890	3410	3448	3141	2995
42	2803	2886	3289	2915	2393	2004	1697	1497	1461	1587	1880	2245	2728	3233	3152	2858	2803
43	2576	2584	2958	2740	2233	1854	1547	1336	1305	1436	1714	2088	2551	3063	2946	2683	2576
44	2400	2413	2671	2589	2053	1702	1406	1192	1158	1269	1557	1932	2389	2885	2765	2481	2400
45	2211	2262	2442	2408	1895	1541	1237	1049	1016	1117	1403	1771	2230	2715	2573	2285	2211
46	1933	2067	2274	2246	1732	1378	1088	904	874	969	1247	1591	2050	2556	2387	2145	1933
47	1782	1927	2123	2082	1558	1207	953	768	738	813	1064	1427	1888	2388	2237	1948	1782
48	1659	1791	1968	1918	1390	1045	806	652	607	685	905	1256	1723	2220	2038	1705	1659
49	1484	1564	1817	1759	1227	901	684	548	499	566	761	1075	1556	2038	1825	1577	1484
50	1389	1416	1669	1575	1064	753	570	448	413	468	625	907	1368	1867	1671	1451	1389
51	1145	1298	1488	1402	903	628	481	371	334	392	497	749	1178	1699	1550	1285	1145
52	914	1154	1304	1241	747	521	403	309	270	320	412	602	998	1518	1404	1184	914
53	833	1053	1154	1051	606	435	339	262	245	278	348	476	820	1354	1274	901	833
54	754	835	1012	893	504	373	304	232	230	251	304	396	653	1186	1125	747	754
55	670	662	873	744	411	325	276	213	208	227	276	332	520	1012	939	658	670
56	586	579	743	604	350	298	255	209	203	209	256	294	430	824	805	567	586
57	507	502	613	501	313	280	243	197	195	202	237	269	352	648	689	493	507
58	438	419	482	424	283	258	222	182	179	191	219	250	307	499	547	418	438
59	370	350	397	363	265	240	212	170	173	172	212	239	276	389	446	351	370
60	296	289	321	325	242	226	195	167	161	166	200	222	261	318	333	292	296
61	229	236	273	289	229	212	182	155	154	159	188	212	248	275	270	234	229

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64	129	145	177	229	190	178	153	132	133	134	159	173	208	216	168	130	129
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66	118	119	147	189	169	163	134	110	114	118	136	157	193	185	141	110	118
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68	106	103	130	162	154	143	116	93	89	96	119	145	176	166	129	100	106
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72	97	80	106	129	129	103	81	43	43	56	91	115	148	128	99	86	97
73	85	90	101	124	114	100	73	24	29	41	72	102	135	121	99	89	85
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75	54	72	76	110	100	87	49	23	26	30	63	88	117	110	80	58	54
76	39	60	83	102	94	79	36	20	20	22	57	77	106	105	78	46	39
77	29	47	82	100	80	69	21	17	18	19	44	74	95	101	82	42	29
78	26	35	71	92	67	67	24	14	17	14	32	70	87	91	71	32	26
79	23	26	70	71	57	53	20	8	9	14	22	62	76	89	66	23	23
80	19	24	56	69	60	45	15	2	5	7	18	56	66	76	64	23	19
81	21	22	54	68	50	44	17	5	11	7	12	39	45	82	51	19	21
82	20	22	51	63	46	39	9	7	8	7	12	33	37	58	47	22	20
83	17	22	47	50	33	25	8	8	9	3	9	15	20	61	51	16	17
84	18	22	41	49	35	23	9	1	4	2	9	9	8	57	44	15	18
85	15	15	32	46	16	11	7	5	6	2	8	8	2	52	30	11	15
86	15	14	19	40	1	10	7	2	7	2	4	8	4	47	34	18	15
87	15	19	24	27	6	6	7	3	4	4	6	6	7	32	30	19	15
88	15	15	22	24	2	8	5	4	7	7	0	4	12	32	26	15	15
89	18	14	5	11	3	7	8	0	2	0	2	5	5	29	24	13	18
90	11	8	12	13	2	4	7	0	3	0	2	9	3	20	15	13	11
91	10	4	9	6	0	6	1	0	4	1	2	6	4	14	10	7	10
92	2	5	5	6	0	4	4	2	7	1	3	3	5	7	8	5	2
93	7	0	1	2	0	3	5	0	8	0	5	3	3	3	5	7	7

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94	0	6	0	0	3	7	2	2	0	0	0	2	4	7	2	4	0
95	4	1	0	2	2	13	7	0	2	0	0	0	1	0	6	3	4
96	6	2	0	3	3	9	5	2	5	0	1	2	2	4	4	2	6
97	4	0	0	7	4	6	7	2	2	3	0	5	8	3	4	0	4
98	6	5	0	0	2	11	6	3	3	0	0	0	1	5	2	0	6
99	5	4	0	0	6	7	0	0	7	0	0	5	3	6	3	1	5
100	6	5	1	5	4	1	6	0	5	0	4	4	0	6	3	1	6
101	5	1	0	0	4	5	3	0	4	3	4	2	0	2	3	0	5
102	2	3	0	5	1	5	6	0	1	0	2	5	3	7	4	2	2
103	6	0	0	5	0	8	5	0	3	0	0	8	5	7	0	0	6
104	0	1	0	5	2	6	7	1	6	0	2	0	0	9	7	1	0
105	3	0	2	5	5	4	5	1	3	0	5	2	3	8	5	0	3
106	4	0	0	5	2	8	3	0	5	0	2	4	0	6	3	0	4
107	6	4	0	4	7	10	2	0	4	2	4	6	2	6	6	0	6
108	6	2	1	5	1	6	1	0	8	0	0	6	0	11	8	0	6
109	0	6	4	0	4	6	1	1	4	0	3	3	2	5	1	3	0
110	0	3	0	6	6	0	7	2	4	0	2	3	1	10	4	0	0
111	4	5	0	5	5	6	4	0	7	0	1	5	4	7	2	5	4
112	7	4	1	1	0	8	0	6	5	0	2	7	0	5	4	0	7
113	6	3	0	7	1	7	6	0	7	1	1	2	1	6	3	4	6
114	1	1	4	3	2	7	5	0	6	1	0	3	1	7	3	0	1
115	4	3	0	5	3	10	4	1	2	5	1	7	2	10	4	0	4
116	7	0	7	0	1	8	0	0	9	2	2	3	0	7	5	0	7
117	4	0	2	5	5	5	8	4	7	4	5	6	3	9	0	2	4
118	4	2	1	6	2	7	0	0	3	0	0	3	0	8	1	5	4
119	5	0	2	5	2	3	6	1	11	1	0	2	0	6	0	1	5
120	3	0	1	5	1	10	7	0	7	0	1	8	3	8	8	1	3
121	0	3	5	2	4	7	5	1	8	6	5	0	0	7	6	0	0
122	4	1	5	5	4	5	4	3	7	1	1	4	0	9	5	0	4
123	8	5	2	2	3	6	9	1	6	1	2	10	4	7	5	2	8
124	7	3	12	2	1	5	5	1	4	4	5	6	4	9	8	0	7
125	6	5	4	0	5	4	7	0	8	3	0	4	6	10	4	2	6

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126	5	5	9	7	5	8	9	1	5	0	0	5	2	6	9	3	5
127	7	6	0	6	4	10	2	0	7	6	5	7	3	12	9	0	7
128	4	2	8	3	6	8	4	4	12	4	1	4	3	5	8	0	4
129	7	3	7	9	7	10	7	0	5	3	0	4	1	5	13	4	7
130	9	9	5	5	3	11	3	4	10	1	1	6	1	11	10	6	9
131	11	10	6	4	0	7	2	5	9	5	1	5	0	10	10	5	11
132	10	2	8	3	6	1	6	2	5	1	2	6	0	11	8	2	10
133	8	7	4	5	2	5	7	0	9	0	5	7	5	5	13	4	8
134	13	6	5	4	8	6	2	1	7	4	2	8	0	8	14	1	13
135	8	5	10	5	2	9	7	3	9	3	8	6	0	10	14	5	8
136	11	7	0	3	5	8	9	1	10	3	2	9	4	7	14	9	11
137	9	9	5	4	3	9	5	1	7	0	5	1	0	9	10	13	9
138	11	7	8	9	3	11	9	0	8	4	0	9	1	6	12	7	11
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140	15	9	3	5	5	5	8	2	3	3	3	8	0	5	11	6	15
141	11	11	2	0	6	10	6	2	11	0	2	4	0	8	9	8	11
142	13	7	7	4	2	14	7	1	6	7	3	5	4	7	8	10	13
143	12	7	1	5	7	10	7	3	6	5	5	8	1	3	3	3	12
144	17	6	4	3	7	10	1	0	7	0	4	7	6	8	9	10	17
145	14	5	7	4	4	9	7	0	9	2	0	4	0	5	4	9	14
146	15	2	1	8	4	11	6	1	6	4	5	12	4	8	10	7	15
147	15	10	5	6	7	7	9	5	8	5	2	5	0	7	5	6	15
148	12	9	1	3	8	7	6	2	8	5	6	7	5	8	0	7	12
149	15	2	0	7	0	9	8	3	5	6	2	4	4	6	5	8	15
150	6	8	0	8	5	7	7	1	7	3	2	3	0	1	6	2	6
151	12	4	2	0	6	12	8	5	6	5	2	7	0	10	4	6	12
152	9	5	3	6	6	9	5	3	11	6	4	6	0	8	10	4	9
153	7	2	2	0	7	12	4	0	7	0	5	1	3	6	8	2	7
154	10	5	0	6	5	9	0	2	4	2	0	4	3	5	7	3	10
155	7	4	7	5	4	9	7	7	6	2	4	8	2	7	5	7	7
156	6	4	5	9	8	8	5	10	10	4	5	8	4	6	2	8	6
157	0	6	2	6	4	8	6	0	7	5	0	6	4	9	5	4	0

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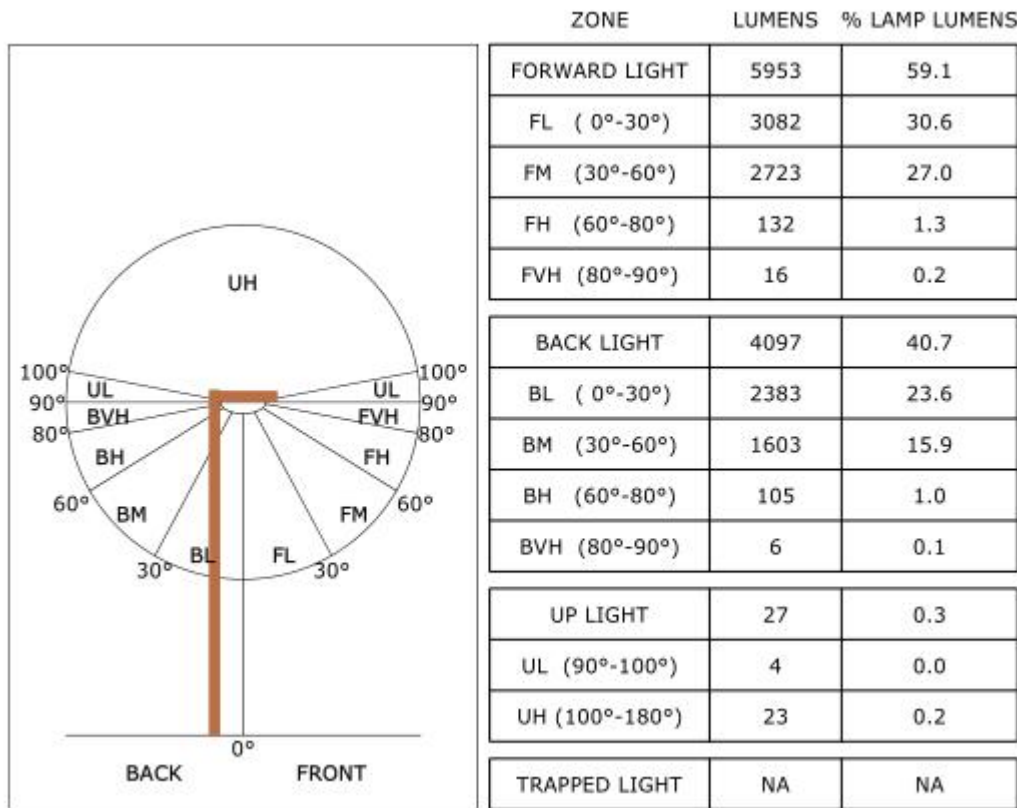
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158	2	6	0	4	4	8	5	3	7	3	6	8	3	7	7	0	2
159	8	7	0	4	4	12	4	2	11	6	4	8	1	7	5	3	8
160	10	2	1	5	4	10	6	4	6	6	0	7	6	11	3	2	10
161	8	3	0	8	6	8	7	5	7	0	5	7	5	7	7	0	8
162	6	2	2	8	0	7	5	1	11	5	4	9	6	9	3	2	6
163	4	3	5	10	4	9	5	5	11	4	0	8	6	7	9	0	4
164	5	4	3	11	7	10	1	4	10	3	0	7	0	8	5	6	5
165	8	4	3	8	3	6	2	5	7	5	5	5	7	10	5	2	8
166	10	5	1	7	6	9	7	0	3	0	0	11	5	8	7	2	10
167	6	0	2	8	1	11	3	1	6	2	3	7	2	8	8	3	6
168	7	2	1	4	6	9	8	4	7	0	0	9	4	10	7	3	7
169	8	3	4	7	6	7	6	2	9	6	0	4	0	7	5	0	8
170	9	6	7	5	4	8	3	4	9	3	5	11	7	12	6	2	9
171	9	1	5	7	3	0	2	3	8	2	2	6	2	4	4	7	9
172	5	3	3	8	4	5	5	0	7	4	4	1	3	6	2	4	5
173	4	0	2	8	4	12	8	0	6	3	7	6	0	12	3	7	4
174	3	4	5	10	5	10	5	1	7	0	0	9	5	7	7	2	3
175	8	0	6	9	5	7	5	2	8	2	3	6	5	7	7	0	8
176	8	2	0	4	4	11	9	6	7	2	1	7	3	5	1	3	8
177	11	4	2	4	6	7	7	0	7	4	4	0	2	8	4	4	11
178	4	5	0	5	5	6	4	1	8	2	1	7	0	12	1	2	4
179	7	2	3	9	6	10	2	1	6	4	2	9	3	10	6	4	7
180	6	3	0	9	10	12	6	2	2	1	2	4	1	8	6	0	6



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

Test date	2018-1-07	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	282405-016		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC181102	120.0	60	0.6635	79.29	0.9958	5.62
8E-D-PL2	277.0	60	0.5945	76.82	0.9416	13.52
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	71	R9	0
Frequency (Hz)	60	R2	75	R10	40
CCT (K)	5454	R3	77	R11	70
Duv	0.003	R4	74	R12	37
Chromaticity (x, y)	x=0.3336 y=0.3479	R5	71	R13	71
Chromaticity (u', v')	u(u')=0.2051 v'(v')=0.4812	R6	66	R14	87
Color Rendering Index (CRI)	72.2	R7	81	R15	68
R9	0	R8	63	--	--

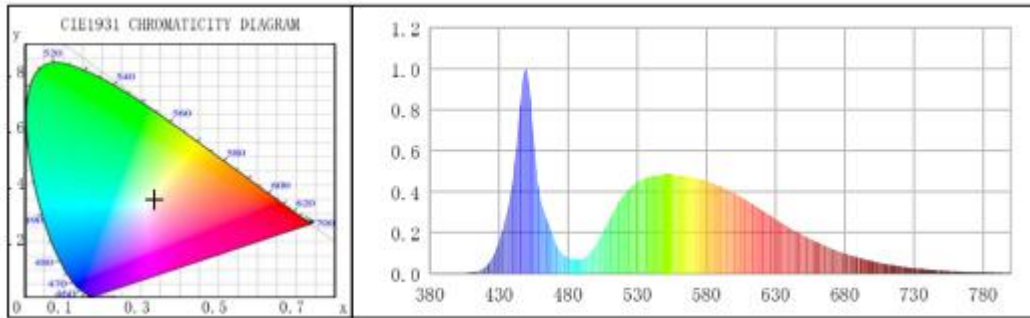
Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V4.3 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	10398	10261.62	>=10000(-10%)
Luminous Efficacy (lm/W)	131.14	133.58	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	129.42		



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Spectral Power Distribution & Chromaticity Diagram





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Calculated Efficacy Data for family models (4500K and 5000K):

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
282405-013	10058.7	79.18	127.04
282405-014	10143.5	79.21	128.06
282405-015	10228.4	79.24	129.09
282405-016	10398	79.29	131.14

Remark: This is a multiple listing test report, and the tested data is referred to report No.BL18010003-6 issued by Shenzhen Belling Efficiency Testing Laboratory (NVLAP accreditation no. 600102-0). The test data and report were reviewed, confirmed and accepted.

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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 *****