



Report No.: STD160203NB-AD

NVLAP LAB CODE 201011-0

LM-79-08 Test Report

For

CEA GROUP INTERNATIONAL CO.,LTD

(Brand Name: CEA/EAEC)

Sanjiali Industrial Zone Zhucheng Road Panshi North baixiang Yueqing Zhejiang China

Architectural Flood and Spot Luminaires and Industrial buildings

Model name(s): SFL1-75

Representative (Tested) Model: SFL1-75(2700K)
SFL1-75(5700K)

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

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Date: Aug.30,2016

Review By:

Tommy Liang

Manager: Tommy Liang

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

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<http://www.standard-tech.com>

1.1 Product Information:

Organization Name	CEA GROUP INTERNATIONAL CO.,LTD	
Brand Name	CEA/EAEC	
Model Number	SFL1-75	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Architectural Flood and Spot Luminaires and Industrial buildings	
Rated Voltage / Frequency	100 -277Vac, 50/60 Hz	
Nominal Power	75W	
Rated Initial Lamp Lumen	--	
Declared CCT	2700K,3000K,3500K,4000K,4500K,5000K, 5700K	
LED Manufacturer	Zhongshan Dongguan Star Photoelectric Techology Co.,Ltd	
LED Model	5730	
Sample Number	STD160203NB-AD1(2700K),AD2(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	Aug.20,2016
Date of Test	Aug.25,2016
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 C78.377-2008 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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, 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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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 QD25)

Test date	2016-08-25	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	SFL1-75(2700K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD160203	120.0	60	0.6348	75.13	0.9863	11.28
NB-AD1	277.0	60	0.2873	72.38	0.9095	14.07
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

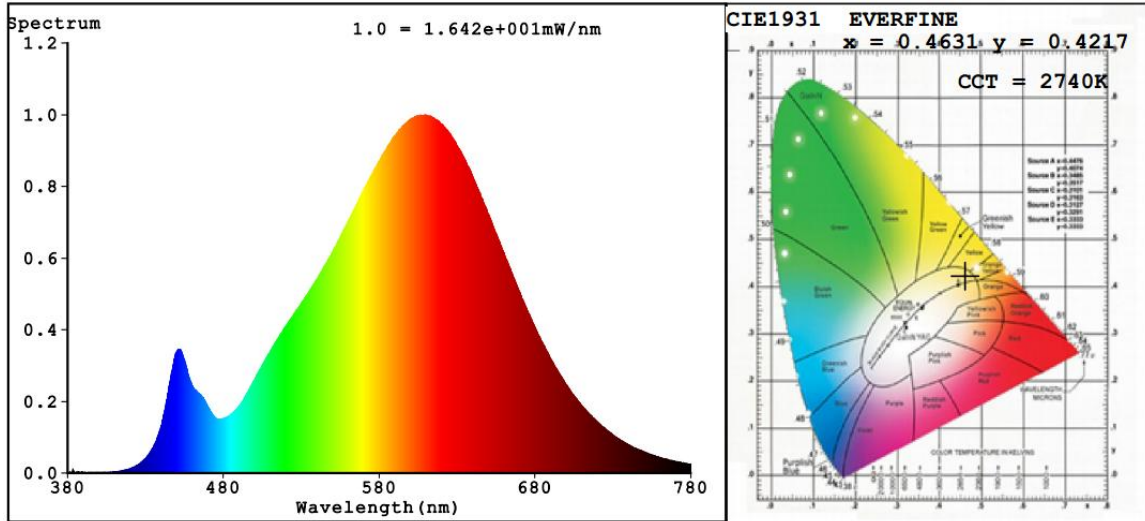
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	80	R9	15
Frequency (Hz)	60	R2	9	R10	74
CCT (K)	2740	R3	97	R11	76
Duv	0.0038	R4	79	R12	64
Chromaticity (x, y)	x=0.4631 y=0.4217	R5	79	R13	81
Chromaticity (u', v')	u'=0.2597 v'=0.5320	R6	85	R14	98
Color Rendering Index (CRI)	82.1	R7	86	R15	73
R9	15	R8	62	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result		DLC V4.0 Pass Criteria	
Test Voltage (V)	120.0	277.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	7153.7	6888.9	>=1000(-10%)	
Luminous Efficacy (lm/W)	95.22	95.18	Standard: >= 95(-3%)	Premium: >= 115(-3%)
Zonal lumens in the 0-90 °zone (%)	99.8	--	>= 85(-3)	
Beam Angle (°)	97.1	--	--	
Center Beam Candle Power (cd)	3279	--	--	

Spectral Power Distribution & Chromaticity Diagram

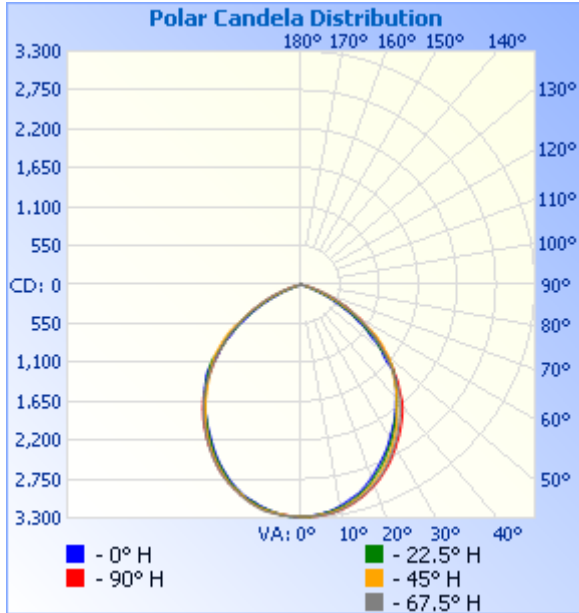


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	2,468.5	34.5%
0-40	3,941.5	55.1%
0-60	6,478.7	90.6%
60-90	662.5	9.3%
70-100	105.6	1.5%
90-120	1.0	0%
0-90	7,141.2	99.8%
90-180	11.3	0.2%
0-180	7,152.4	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	309.8	4.3%	90-100	0	0%
10-20	875.5	12.2%	100-110	0.1	0%
20-30	1,283.2	17.9%	110-120	0.9	0%
30-40	1,473.0	20.6%	120-130	2.0	0%
40-50	1,434.9	20.1%	130-140	2.4	0%
50-60	1,102.3	15.4%	140-150	2.3	0%
60-70	556.9	7.8%	150-160	1.9	0%
70-80	98.8	1.4%	160-170	1.2	0%
80-90	6.7	0.1%	170-180	0.5	0%

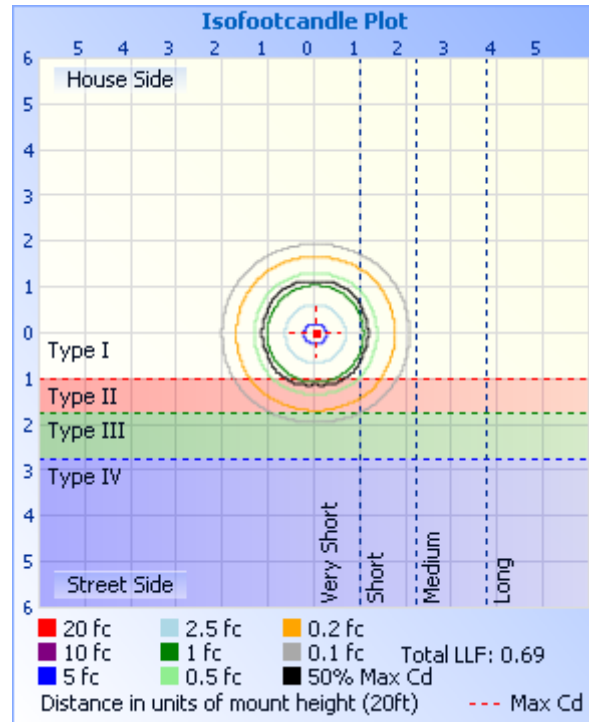
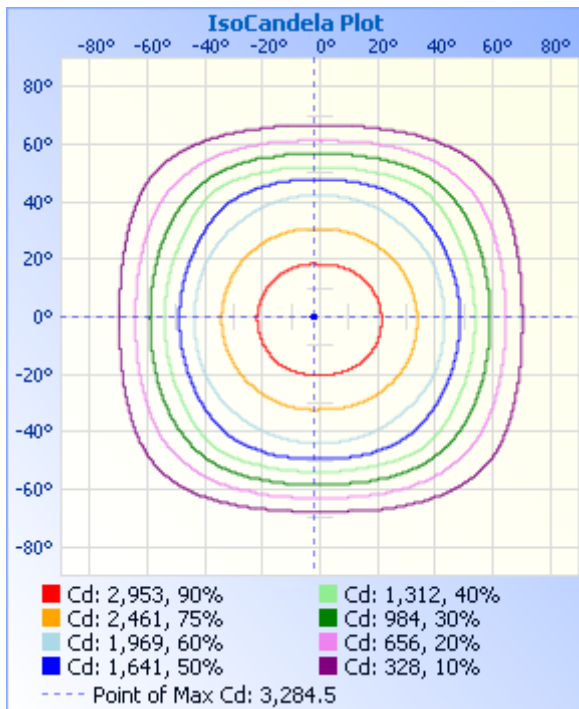
Photometric Data



Illuminance at a Distance

Distance (ft)	Center Beam fc	Beam Width	Beam Width (ft)
17.0ft	11.35 fc	38.5 ft	38.8 ft
34.0ft	2.84 fc	77.1 ft	77.7 ft
51.0ft	1.26 fc	115.6 ft	116.5 ft
68.0ft	0.71 fc	154.1 ft	155.3 ft
85.0ft	0.45 fc	192.7 ft	194.2 ft
102.0ft	0.32 fc	231.2 ft	233.0 ft

Vert. Spread: 97.2°
Horiz. Spread: 97.6°



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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	3279	3279	3279	3279	3279	3279	3279	3279	3279	3279	3279	3279	3279	3279	3279	3279	3279
1	3275	3283	3280	3281	3283	3282	3281	3281	3282	3276	3276	3278	3276	3274	3275	3275	3275
2	3275	3285	3280	3278	3281	3280	3283	3281	3280	3277	3274	3280	3273	3271	3272	3272	3275
3	3269	3278	3276	3279	3281	3278	3280	3279	3275	3277	3272	3277	3270	3266	3268	3266	3269
4	3260	3267	3268	3280	3280	3276	3278	3276	3270	3276	3264	3272	3265	3260	3260	3260	3260
5	3253	3257	3261	3274	3275	3273	3277	3267	3261	3266	3258	3270	3261	3257	3252	3250	3253
6	3241	3248	3258	3267	3268	3270	3269	3256	3250	3251	3251	3264	3255	3252	3245	3234	3241
7	3232	3238	3252	3262	3263	3264	3257	3246	3235	3239	3244	3254	3248	3245	3236	3225	3232
8	3215	3226	3240	3257	3256	3261	3250	3234	3220	3226	3235	3250	3239	3237	3223	3213	3215
9	3195	3213	3228	3247	3247	3255	3241	3222	3204	3214	3225	3243	3228	3226	3206	3197	3195
10	3176	3196	3217	3230	3234	3241	3226	3208	3188	3200	3213	3229	3214	3212	3192	3181	3176
11	3153	3180	3202	3212	3221	3221	3212	3191	3170	3180	3198	3209	3200	3193	3175	3162	3153
12	3130	3164	3180	3199	3203	3200	3196	3171	3146	3154	3179	3190	3180	3173	3154	3138	3130
13	3108	3144	3159	3180	3187	3181	3176	3151	3127	3140	3158	3170	3161	3152	3136	3115	3108
14	3087	3118	3137	3159	3168	3161	3156	3131	3110	3124	3134	3147	3139	3131	3114	3093	3087
15	3066	3089	3116	3139	3145	3140	3134	3109	3090	3101	3105	3125	3116	3104	3086	3071	3066
16	3039	3063	3091	3113	3124	3117	3110	3081	3064	3074	3077	3097	3091	3077	3060	3044	3039
17	3007	3038	3062	3085	3101	3092	3085	3055	3033	3043	3052	3070	3063	3053	3034	3015	3007
18	2974	3011	3033	3063	3076	3067	3060	3028	3005	3018	3028	3044	3039	3025	3006	2987	2974
19	2939	2976	3004	3034	3050	3045	3034	3000	2974	2990	3004	3017	3011	2994	2973	2957	2939
20	2903	2939	2974	3006	3026	3020	3006	2971	2940	2956	2977	2989	2983	2968	2940	2922	2903
21	2865	2900	2943	2975	2994	2989	2973	2938	2904	2919	2944	2960	2954	2938	2905	2884	2865
22	2825	2864	2907	2944	2963	2952	2936	2903	2868	2881	2909	2928	2924	2900	2867	2847	2825
23	2785	2828	2872	2909	2929	2916	2896	2865	2830	2845	2872	2893	2889	2861	2828	2806	2785
24	2747	2791	2837	2872	2895	2884	2861	2828	2793	2807	2832	2853	2853	2828	2790	2764	2747
25	2709	2752	2801	2835	2861	2849	2823	2790	2754	2768	2794	2819	2815	2790	2752	2724	2709
26	2673	2708	2762	2795	2825	2809	2786	2752	2713	2730	2756	2779	2774	2747	2712	2686	2673
27	2636	2666	2719	2756	2786	2769	2746	2709	2670	2692	2714	2739	2733	2704	2667	2644	2636
28	2595	2626	2676	2714	2744	2733	2701	2664	2626	2647	2674	2698	2691	2661	2622	2602	2595

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29	2550	2585	2631	2671	2702	2691	2656	2621	2582	2600	2634	2655	2652	2618	2578	2559	2550
30	2506	2543	2587	2630	2660	2647	2609	2577	2538	2555	2590	2610	2611	2576	2529	2514	2506
31	2463	2499	2543	2588	2619	2601	2562	2530	2494	2512	2543	2569	2567	2533	2486	2469	2463
32	2422	2454	2499	2544	2580	2552	2514	2486	2452	2470	2499	2526	2526	2490	2441	2424	2422
33	2381	2408	2453	2500	2539	2506	2468	2438	2412	2425	2448	2477	2481	2440	2394	2379	2381
34	2344	2364	2402	2453	2496	2463	2423	2394	2371	2378	2400	2430	2436	2393	2346	2336	2344
35	2300	2321	2349	2406	2453	2420	2375	2351	2328	2333	2352	2386	2397	2345	2297	2293	2300
36	2258	2275	2297	2359	2409	2376	2325	2304	2286	2289	2300	2338	2350	2303	2250	2251	2258
37	2215	2230	2247	2313	2366	2332	2278	2259	2243	2245	2247	2290	2300	2254	2199	2205	2215
38	2172	2188	2197	2262	2322	2290	2228	2213	2204	2202	2196	2240	2250	2201	2148	2164	2172
39	2125	2143	2149	2209	2273	2241	2176	2170	2164	2155	2144	2187	2201	2150	2101	2118	2125
40	2084	2095	2101	2161	2225	2192	2128	2125	2122	2108	2090	2137	2153	2107	2053	2070	2084
41	2044	2050	2052	2112	2172	2145	2082	2083	2080	2064	2037	2087	2100	2057	2004	2025	2044
42	2003	2006	2003	2063	2099	2095	2034	2039	2036	2019	1983	2037	2029	2000	1954	1983	2003
43	1961	1962	1952	2012	2031	2040	1986	1993	1991	1972	1933	1982	1958	1944	1905	1939	1961
44	1918	1917	1899	1941	1982	1974	1935	1947	1946	1925	1884	1916	1904	1876	1860	1895	1918
45	1871	1871	1850	1869	1925	1899	1887	1903	1903	1879	1834	1844	1849	1805	1810	1849	1871
46	1825	1823	1808	1816	1850	1841	1841	1854	1860	1828	1785	1782	1780	1750	1763	1801	1825
47	1754	1773	1767	1757	1789	1788	1789	1804	1812	1778	1741	1724	1718	1695	1716	1750	1754
48	1628	1725	1722	1684	1735	1720	1739	1758	1742	1731	1695	1656	1664	1630	1672	1701	1628
49	1550	1665	1673	1616	1659	1648	1696	1711	1612	1683	1650	1587	1596	1563	1625	1634	1550
50	1501	1545	1623	1565	1594	1593	1652	1642	1529	1625	1605	1533	1529	1510	1576	1519	1501
51	1455	1446	1564	1495	1541	1528	1603	1525	1481	1507	1556	1472	1474	1447	1528	1427	1455
52	1383	1395	1496	1428	1467	1453	1535	1430	1434	1403	1491	1402	1407	1380	1467	1373	1383
53	1254	1346	1443	1375	1406	1400	1467	1382	1364	1350	1428	1348	1344	1326	1409	1327	1254
54	1191	1293	1387	1305	1346	1336	1417	1336	1240	1306	1373	1287	1287	1263	1353	1265	1191
55	1144	1166	1323	1243	1273	1266	1366	1269	1177	1250	1316	1217	1212	1195	1299	1147	1144
56	1090	1097	1259	1182	1218	1207	1295	1148	1133	1128	1255	1164	1157	1142	1222	1079	1090
57	967	1052	1176	1114	1144	1137	1223	1084	1068	1056	1194	1093	1087	1071	1119	1034	967
58	910	1005	1048	1061	1087	1086	1118	1040	949	1014	1109	1037	1033	1019	1029	982	910
59	867	881	986	987	1011	1014	1020	972	892	961	982	971	962	950	966	869	867
60	759	826	935	930	955	953	968	858	847	846	926	913	909	898	909	813	759

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61	689	786	860	867	885	883	909	807	734	790	872	847	841	834	837	773	689
62	652	679	761	813	818	831	813	756	678	747	810	797	784	784	731	669	652
63	548	621	691	753	759	766	723	651	630	642	707	731	724	719	676	612	548
64	504	581	639	692	693	705	670	607	526	593	635	677	663	662	625	566	504
65	424	478	565	635	628	654	615	531	486	545	592	624	601	613	533	475	424
66	371	437	484	579	569	593	513	458	387	450	515	566	547	555	476	438	371
67	290	348	440	519	510	531	468	395	345	408	441	511	488	501	426	342	290
68	238	310	364	463	449	477	405	327	264	322	401	459	434	445	351	294	238
69	180	233	316	408	392	422	337	248	190	272	326	406	378	395	308	231	180
70	114	171	266	357	339	366	296	181	127	210	283	353	327	341	249	159	114
71	57	118	214	299	287	304	231	130	75	149	229	303	276	276	213	101	57
72	51	69	165	236	243	250	179	78	55	93	189	251	232	234	160	54	51
73	46	47	135	196	195	205	139	50	49	50	143	200	190	192	118	45	46
74	41	41	97	153	152	158	101	44	44	45	114	161	151	147	83	41	41
75	37	37	67	113	111	121	66	39	40	40	80	122	114	114	54	36	37
76	33	33	43	79	72	86	38	35	36	36	54	89	80	81	32	32	33
77	29	29	28	49	41	57	29	31	31	31	31	61	50	56	27	28	29
78	25	25	24	29	31	34	25	27	28	28	26	38	34	34	24	24	25
79	21	21	20	24	26	25	22	23	24	24	23	28	29	25	20	21	21
80	18	18	17	21	22	21	18	19	20	20	19	23	24	21	17	17	18
81	14	14	14	17	19	17	15	16	16	17	16	20	20	18	14	14	14
82	10	11	11	14	16	14	11	12	12	13	12	16	17	14	11	10	10
83	6	7	8	11	13	11	9	9	9	10	10	13	14	11	8	7	6
84	3	4	5	8	10	8	6	6	5	6	7	9	10	8	6	4	3
85	1	2	3	6	7	6	4	2	2	3	4	7	8	6	3	2	1
86	0	1	1	3	5	3	2	0	0	1	2	4	5	4	1	1	0
87	0	0	0	1	2	1	0	0	0	0	0	2	3	1	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
109	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0
111	0	0	1	1	1	1	0	0	0	1	1	1	1	1	0	0
112	0	0	1	1	1	1	1	0	0	1	1	1	1	1	0	0
113	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
114	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1
115	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
116	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
117	1	1	1	1	1	1	1	1	1	1	1	2	2	1	0	1
118	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1
119	1	1	1	2	2	1	1	1	1	1	1	2	2	2	1	1
120	1	1	2	2	2	1	1	1	1	1	2	2	2	2	1	1
121	2	2	2	2	2	2	1	1	1	1	2	2	2	2	2	2
122	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
123	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
124	3	2	2	2	2	2	2	2	2	2	2	2	3	2	2	3

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125	3	3	2	2	2	2	2	2	2	2	2	2	3	3	2	2	3
126	3	3	2	3	2	2	2	2	2	2	2	2	3	3	2	3	3
127	3	3	2	3	2	2	2	2	2	2	2	2	3	3	2	3	3
128	3	3	2	3	3	2	2	2	3	2	2	2	3	3	2	3	3
129	3	3	2	3	3	2	2	2	3	2	2	2	3	3	2	3	3
130	3	3	2	3	3	2	2	2	3	3	2	2	3	3	2	3	3
131	3	3	2	3	3	2	2	3	3	3	2	3	3	3	2	3	3
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135	4	4	3	3	3	3	2	3	3	3	2	3	4	3	3	4	4
136	4	4	3	3	3	3	2	3	3	3	3	3	4	3	3	4	4
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138	4	4	3	3	3	3	2	3	3	3	3	3	4	3	3	4	4
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140	4	4	3	3	4	3	2	4	4	4	3	3	4	3	3	4	4
141	4	4	3	3	4	3	2	4	4	4	3	3	4	3	3	4	4
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143	4	4	3	3	4	3	3	4	4	4	3	3	4	3	3	4	4
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145	4	4	3	3	4	3	3	4	4	4	3	4	4	3	3	4	4
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147	4	4	3	3	4	4	3	4	4	5	4	4	4	3	4	4	4
148	4	4	3	3	4	4	3	4	4	5	4	4	4	3	4	4	4
149	4	4	3	3	4	4	4	4	4	5	4	4	4	3	4	4	4
150	4	4	3	4	4	4	4	4	4	5	4	4	4	3	4	4	4
151	4	4	4	4	4	4	4	4	4	5	4	4	4	3	4	4	4
152	4	4	4	4	4	4	4	4	4	5	4	4	4	3	5	5	4
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154	4	4	4	4	4	4	4	4	4	5	4	4	4	4	5	5	4
155	4	4	4	4	4	4	4	4	4	5	4	4	4	4	5	5	4
156	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4

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157	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4
158	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4
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162	4	4	5	4	4	4	4	4	4	4	4	4	4	4	5	5	4
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166	4	4	5	4	5	4	4	4	4	4	4	4	4	4	5	4	4
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168	5	5	5	4	5	5	4	5	5	5	5	5	5	4	5	5	5
169	5	5	5	4	5	5	5	5	5	5	5	5	5	4	6	5	5
170	5	6	6	4	5	5	5	5	5	5	5	5	5	4	6	5	5
171	6	6	6	4	5	5	5	6	5	6	5	6	5	4	6	5	6
172	6	6	6	4	5	5	5	5	5	6	5	5	5	4	6	6	6
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174	6	6	6	4	5	5	5	5	5	6	5	5	5	5	6	6	6
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176	6	6	6	5	5	5	5	5	5	6	5	5	5	5	6	6	6
177	6	6	6	5	5	5	5	5	5	6	5	5	5	5	6	6	6
178	6	6	6	5	5	5	5	5	5	6	5	5	5	5	6	6	6
179	6	6	6	4	5	5	5	5	5	6	5	5	5	5	6	5	6
180	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction QD25)

Test date	2016-08-25	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	SFL1-75(5700K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD160203	120.0	60	0.6282	74.53	0.9887	11.37
NB-AD2	277.0	60	0.2871	72.27	0.9088	14.19
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

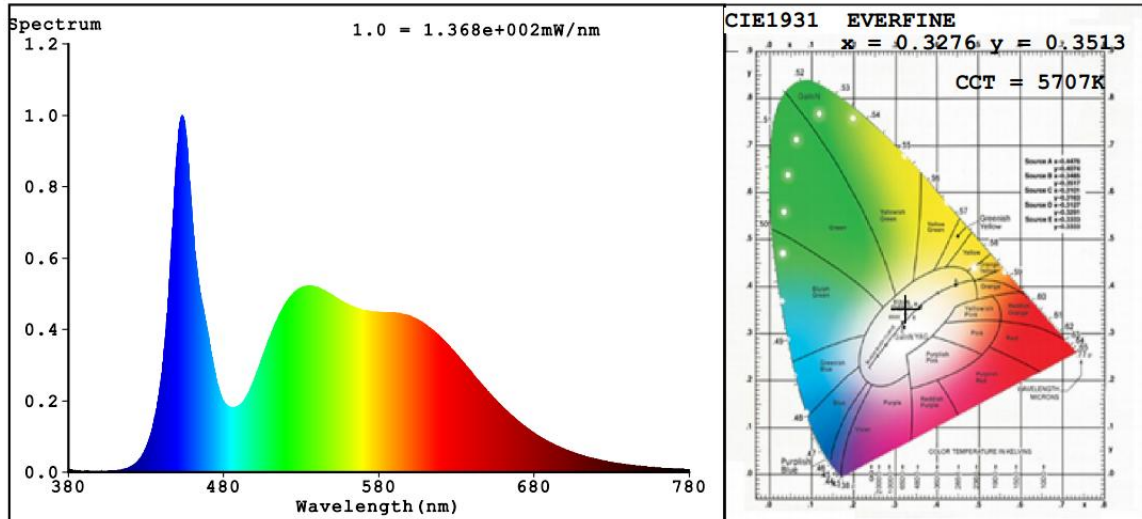
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	18
Frequency (Hz)	60	R2	87	R10	67
CCT (K)	5707	R3	88	R11	82
Duv	0.0073	R4	84	R12	51
Chromaticity (x, y)	x=0.3276 y=0.3513	R5	82	R13	84
Chromaticity (u', v')	u'=0.1997 v'=0.4819	R6	81	R14	93
Color Rendering Index (CRI)	83.5	R7	91	R15	78
R9	18	R8	73	--	--

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V4.0 Pass Criteria	
Test Voltage (V)	120.0	277.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	7361	7125	>=1000(-10%)	
Luminous Efficacy (lm/W)	98.77	98.59	Standard: >= 95(-3%)	Premium: >= 115(-3%)

Spectral Power Distribution & Chromaticity Diagram



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3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2016-07-01	2017-06-30
ST-R-331	Spectral analysis system HAAS-2000	2016-07-01	2017-06-30
D204	Standard Lamp	2016-07-01	2017-06-30
PF2010	Power Meter for Integrating Sphere	2016-07-01	2017-06-30
EE-09	Goniophotometer system	2016-07-01	2017-06-30
D908S	Standard Lamp	2016-07-01	2017-06-30
PF210	Power Meter for Goniophotometer	2016-07-01	2017-06-30
ST-R-181A	Temperature Tester	2016-07-01	2017-06-30
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

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

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