



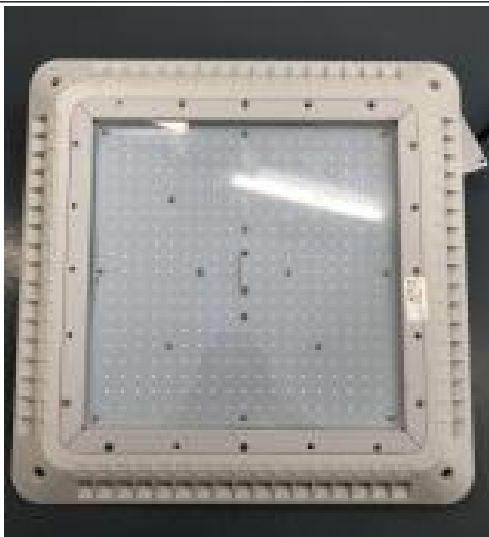
i-LUMINOSITY
LED LIGHTING FIXTURES

Test Report

1.1 Product Information:

SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Fuel Pump Canopy Luminaires	
Rated Voltage / Frequency	100-277/277-480Vac, 50/60 Hz	
Nominal Power	60W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,4000K,5000K,5700K	
LED Manufacturer	Lumileds	
LED Model	LUXEON 3030 2D	
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	Feb.16,2018
Date of Test	Feb. 19,2018
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	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.



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Summary

Electrical Measurement with HVG-65-48 driver:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
IL	277.0	60	0.2174	59.3	0.9846	15.26
	480.0	60	0.1306	58.45	0.9325	10.34
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Model No.	Test Driver Model	Voltage (Vac)	Frequency (Hz)	Lumen Output(lm)	Power (W)	Lumen Efficacy(lm/w)
IL	ELG-75-48	120.0	60	8389.54	60.5	138.67
	HVG-65-48	277.0	60	8274.72	59.3	139.54

The measured lumen efficacy of test driver “ELG-75-48” was less than test driver “HVG-65-48”. So the following test will be tested with driver “ELG-75-48”.



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

Test date	2018-2-19	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	IL		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC180100	120.0	60	0.5163	60.5	0.9765	14.85
8E-O-R1	277.0	60	0.2345	59.83	0.9209	9.69
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

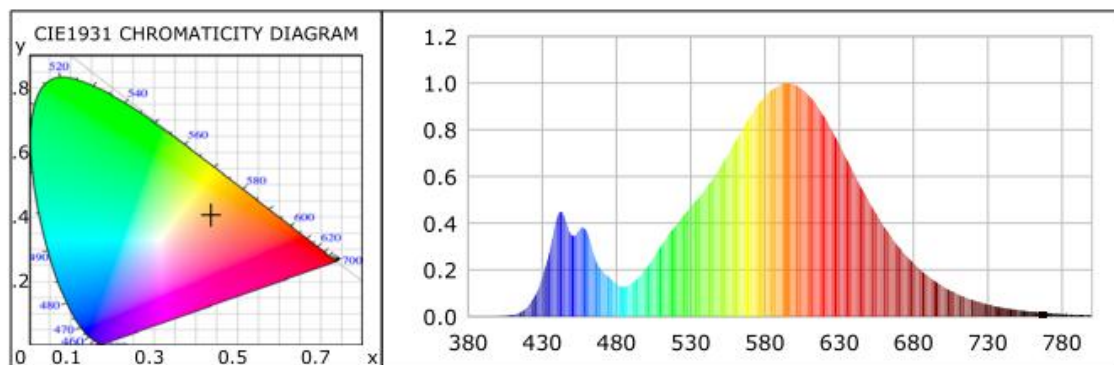
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	69	R9	0
Frequency (Hz)	60	R2	83	R10	60
CCT (K)	2998	R3	94	R11	62
Duv	-0.00034	R4	68	R12	54
Chromaticity (x, y)	x=0.4366 y=0.4031	R5	68	R13	71
Chromaticity (u', v')	u(u')=0.2508 v'(v')=0.5209	R6	76	R14	97
Color Rendering Index (CRI)	72.7	R7	78	R15	62
R9	0	R8	46	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result		DLC V4.2 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	8389.54	8275.69	5000- 10000(-10%)
Luminous Efficacy (lm/W)	138.67	138.32	Premium: >= 115(-3%)
Most worst Luminous/Highest Watts	136.79		
Zonal lumens in the 0-40° zone (%)	45.4	--	>= 40(-3%)
Zonal lumens in the 40-70° zone (%)	48.3	--	>= 40(-3%)
Beam Angle (°)	116.3	--	--
Center Beam Candle Power (cd)	2888	--	--

Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

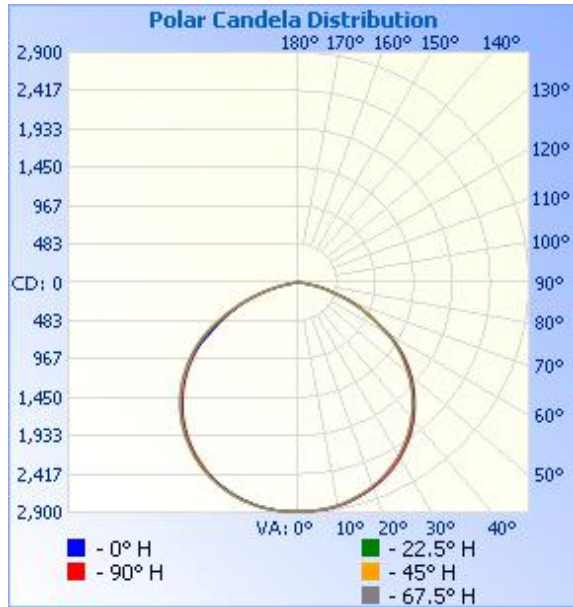
Zonal Lumen Summary				Lumens Per Zone					
Zone	Lumens	% Lamp	% Luminaire	Zone	Lumens	% Total	Zone	Lumens	% Total
0-30	2,297.1	27.4%	27.4%	0-10	274.6	3.3%	90-100	3.7	0%
0-40	3,806.7	45.4%	45.4%	10-20	795.5	9.5%	100-110	2.6	0%
0-60	6,841.0	81.5%	81.6%	20-30	1,226.9	14.6%	110-120	2.1	0%
60-90	1,529.5	18.2%	18.2%	30-40	1,509.6	18.0%	120-130	2.0	0%
70-100	521.2	6.2%	6.2%	40-50	1,593.1	19.0%	130-140	2.2	0%
90-120	8.3	0.1%	0.1%	50-60	1,441.2	17.2%	140-150	2.2	0%
0-90	8,370.5	99.8%	99.8%	60-70	1,012.0	12.1%	150-160	1.8	0%
90-180	18.2	0.2%	0.2%	70-80	452.9	5.4%	160-170	1.2	0%
0-180	8,388.7	100%	100%	80-90	64.7	0.8%	170-180	0.4	0%



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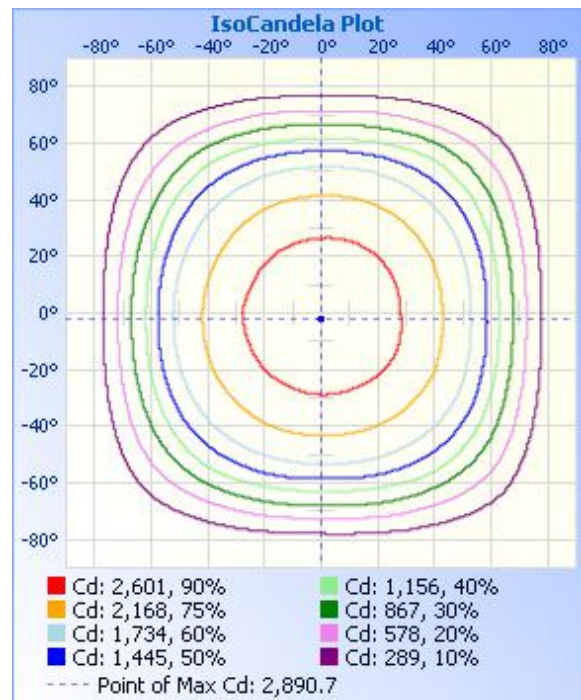
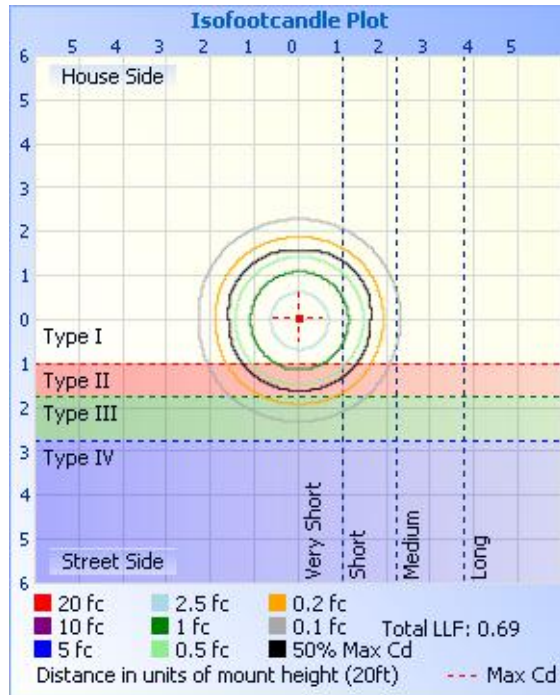
Photometric Data



Illuminance at a Distance

Distance (ft)	Center Beam fc	Beam Width	Beam Width (ft)
17.0ft	9.99 fc	54.1 ft	54.7 ft
34.0ft	2.50 fc	108.2 ft	109.4 ft
51.0ft	1.11 fc	162.3 ft	164.0 ft
68.0ft	0.62 fc	216.5 ft	218.7 ft
85.0ft	0.40 fc	270.6 ft	273.4 ft
102.0ft	0.28 fc	324.7 ft	328.1 ft

■ Vert. Spread: 115.7°
■ Horiz. Spread: 116.3°





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Candela Table - Type C

聽	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	2888	2888	2888	2888	2888	2888	2888	2888	2888	2888	2888	2888	2888	2888	2888	2888	2888
1	2888	2887	2887	2888	2888	2889	2889	2888	2889	2889	2889	2889	2889	2888	2888	2889	2888
2	2885	2885	2886	2885	2888	2889	2890	2888	2891	2889	2889	2888	2889	2888	2888	2888	2885
3	2884	2884	2884	2884	2888	2889	2889	2888	2889	2889	2889	2888	2888	2888	2887	2886	2884
4	2881	2882	2883	2881	2886	2888	2887	2886	2889	2887	2889	2889	2888	2884	2884	2885	2881
5	2881	2881	2880	2879	2886	2887	2886	2885	2887	2886	2888	2888	2886	2882	2882	2883	2881
6	2876	2875	2877	2876	2884	2884	2882	2883	2885	2883	2887	2888	2884	2881	2880	2881	2876
7	2874	2871	2871	2870	2880	2880	2879	2878	2880	2882	2885	2885	2880	2877	2877	2876	2874
8	2870	2867	2866	2868	2876	2877	2875	2876	2876	2877	2882	2882	2876	2871	2873	2873	2870
9	2864	2860	2859	2861	2870	2871	2869	2872	2871	2872	2876	2877	2873	2866	2868	2866	2864
10	2857	2852	2853	2853	2864	2863	2862	2864	2865	2865	2871	2871	2868	2860	2862	2860	2857
11	2850	2844	2845	2845	2858	2857	2854	2855	2857	2859	2864	2865	2858	2852	2855	2851	2850
12	2844	2835	2835	2834	2849	2847	2849	2849	2848	2853	2856	2858	2849	2844	2847	2843	2844
13	2834	2825	2825	2824	2840	2838	2838	2841	2839	2843	2848	2848	2840	2834	2836	2833	2834
14	2822	2813	2813	2811	2830	2829	2829	2832	2829	2835	2840	2840	2832	2826	2828	2823	2822
15	2811	2802	2802	2800	2818	2819	2820	2822	2816	2823	2831	2831	2821	2815	2817	2813	2811
16	2800	2789	2791	2787	2808	2807	2808	2809	2805	2812	2816	2822	2810	2804	2805	2802	2800
17	2785	2777	2777	2774	2794	2793	2797	2796	2792	2800	2805	2809	2797	2792	2791	2790	2785
18	2772	2763	2763	2760	2781	2778	2782	2783	2780	2789	2792	2798	2783	2779	2777	2775	2772
19	2757	2749	2747	2746	2767	2766	2768	2770	2766	2775	2781	2784	2768	2764	2765	2760	2757
20	2740	2733	2732	2732	2752	2752	2751	2755	2752	2760	2767	2769	2753	2749	2749	2744	2740
21	2724	2715	2711	2714	2738	2736	2736	2740	2740	2746	2753	2755	2739	2734	2734	2729	2724
22	2706	2697	2695	2696	2724	2719	2719	2723	2723	2728	2737	2738	2721	2717	2718	2712	2706
23	2689	2680	2676	2678	2704	2702	2701	2704	2708	2709	2717	2721	2702	2701	2700	2693	2689
24	2667	2659	2659	2657	2687	2683	2682	2685	2691	2691	2700	2706	2682	2682	2682	2675	2667
25	2645	2638	2637	2638	2668	2662	2662	2667	2670	2672	2681	2689	2662	2663	2659	2654	2645
26	2623	2618	2614	2617	2650	2642	2642	2647	2653	2653	2660	2667	2641	2642	2639	2634	2623
27	2601	2598	2593	2595	2629	2618	2622	2624	2633	2632	2641	2646	2617	2621	2617	2615	2601
28	2578	2573	2569	2573	2604	2593	2599	2602	2612	2609	2621	2625	2594	2597	2597	2594	2578



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29	2556	2553	2547	2549	2581	2571	2573	2580	2589	2587	2599	2603	2572	2576	2575	2568	2556
30	2530	2527	2524	2524	2557	2548	2551	2557	2568	2563	2576	2579	2547	2551	2551	2545	2530
31	2506	2501	2496	2495	2531	2521	2528	2534	2540	2538	2553	2555	2523	2526	2528	2520	2506
32	2480	2476	2469	2468	2503	2494	2500	2508	2514	2511	2525	2526	2496	2501	2500	2494	2480
33	2451	2450	2439	2440	2474	2470	2473	2479	2487	2485	2498	2502	2469	2475	2471	2468	2451
34	2423	2421	2410	2410	2446	2443	2440	2453	2458	2460	2471	2475	2441	2446	2439	2437	2423
35	2394	2391	2379	2379	2421	2413	2416	2427	2430	2432	2441	2446	2413	2416	2411	2410	2394
36	2364	2359	2347	2352	2392	2383	2385	2396	2398	2403	2415	2420	2384	2384	2381	2382	2364
37	2332	2326	2317	2319	2361	2353	2354	2364	2368	2371	2382	2389	2352	2355	2349	2350	2332
38	2302	2296	2285	2287	2325	2319	2321	2334	2336	2336	2348	2359	2322	2321	2320	2318	2302
39	2270	2262	2250	2253	2291	2289	2287	2300	2304	2304	2317	2328	2289	2288	2283	2285	2270
40	2233	2226	2218	2215	2255	2254	2255	2268	2268	2272	2286	2294	2254	2255	2252	2249	2233
41	2197	2193	2180	2181	2218	2220	2221	2232	2231	2237	2253	2262	2218	2220	2214	2214	2197
42	2158	2156	2141	2142	2181	2181	2187	2194	2193	2201	2215	2223	2180	2184	2178	2179	2158
43	2121	2120	2107	2104	2143	2147	2143	2160	2157	2167	2179	2189	2143	2149	2140	2141	2121
44	2082	2078	2067	2067	2104	2110	2106	2124	2121	2131	2140	2155	2105	2111	2106	2104	2082
45	2045	2040	2025	2028	2066	2071	2066	2083	2081	2094	2101	2116	2068	2072	2065	2063	2045
46	2003	1997	1984	1987	2028	2027	2026	2045	2045	2056	2057	2079	2022	2030	2025	2024	2003
47	1964	1958	1939	1944	1989	1990	1985	2004	2006	2017	2019	2035	1985	1988	1981	1983	1964
48	1919	1919	1899	1900	1942	1946	1941	1959	1965	1975	1977	1995	1944	1950	1935	1941	1919
49	1873	1873	1854	1856	1899	1907	1897	1915	1917	1933	1936	1954	1898	1909	1894	1898	1873
50	1832	1826	1807	1810	1858	1859	1854	1875	1875	1891	1891	1911	1854	1867	1847	1856	1832
51	1784	1782	1759	1763	1812	1815	1811	1829	1829	1846	1847	1867	1806	1819	1801	1808	1784
52	1740	1735	1712	1713	1765	1773	1760	1780	1784	1798	1798	1819	1758	1773	1756	1761	1740
53	1691	1691	1662	1667	1716	1723	1713	1731	1735	1752	1751	1771	1715	1722	1706	1711	1691
54	1642	1641	1616	1619	1669	1676	1669	1685	1679	1702	1706	1726	1665	1673	1659	1664	1642
55	1591	1592	1563	1570	1618	1622	1621	1637	1630	1653	1654	1676	1616	1627	1611	1610	1591
56	1541	1536	1513	1519	1563	1573	1567	1581	1580	1598	1608	1625	1563	1577	1561	1562	1541
57	1491	1484	1466	1466	1508	1521	1521	1529	1521	1548	1558	1573	1514	1522	1511	1502	1491
58	1425	1431	1418	1411	1455	1468	1466	1476	1452	1499	1512	1520	1460	1466	1457	1452	1425
59	1348	1373	1360	1358	1399	1413	1411	1415	1372	1442	1458	1465	1396	1414	1405	1392	1348
60	1271	1313	1306	1301	1333	1353	1359	1346	1296	1378	1401	1413	1317	1356	1350	1336	1271



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61	1207	1240	1248	1230	1246	1295	1298	1260	1241	1295	1345	1354	1236	1303	1290	1259	1207
62	1154	1162	1195	1152	1173	1228	1242	1192	1184	1221	1290	1290	1174	1227	1236	1187	1154
63	1099	1096	1135	1075	1117	1145	1186	1133	1137	1156	1235	1211	1118	1144	1180	1119	1099
64	1045	1035	1072	1012	1065	1066	1127	1077	1080	1101	1176	1136	1064	1077	1124	1061	1045
65	987	982	1009	953	1011	1008	1063	1020	1028	1048	1108	1068	1003	1015	1064	1003	987
66	936	926	949	894	950	956	995	960	972	989	1047	1011	946	957	1000	946	936
67	877	871	881	843	893	899	910	904	912	933	978	955	886	901	932	894	877
68	816	813	795	783	835	836	833	849	851	878	888	894	827	838	854	831	816
69	761	756	705	726	778	781	757	792	790	821	799	841	769	786	769	775	761
70	700	697	651	665	715	725	688	729	734	759	735	779	709	727	695	716	700
71	640	643	594	608	655	667	635	672	661	701	680	721	650	668	639	664	640
72	568	581	546	555	605	608	584	607	589	644	628	665	589	609	585	605	568
73	513	518	491	495	530	548	529	534	536	565	566	604	515	557	530	542	513
74	454	454	439	427	465	479	471	480	482	504	514	542	467	488	480	476	454
75	404	403	382	374	414	424	416	427	428	451	458	473	409	425	420	420	404
76	358	353	333	322	366	371	365	377	384	400	405	421	360	370	371	369	358
77	310	304	284	276	316	313	307	328	313	349	355	369	309	318	322	321	310
78	251	253	228	218	260	259	253	265	266	288	286	313	253	265	260	273	251
79	215	205	191	181	217	212	209	216	229	234	239	256	212	219	214	219	215
80	178	167	158	147	182	179	176	182	179	199	207	208	176	180	182	183	178
81	137	130	118	114	141	139	134	141	144	152	162	176	135	148	144	145	137
82	109	103	94	87	111	106	104	110	111	122	129	136	105	110	107	112	109
83	81	76	65	62	77	79	74	79	82	92	96	106	75	84	84	81	81
84	60	56	50	43	56	54	51	54	60	67	69	74	54	60	61	61	60
85	43	36	35	29	38	38	36	38	40	46	49	52	36	41	44	43	43
86	27	28	26	15	24	25	28	28	28	29	30	38	24	27	32	32	27
87	25	20	20	15	19	18	18	16	19	18	12	21	17	18	22	21	25
88	16	15	13	13	12	8	14	15	15	16	17	16	13	14	18	15	16
89	14	14	7	6	8	10	10	11	8	12	12	13	9	12	11	12	14
90	10	7	5	6	3	3	3	4	6	7	7	8	2	4	9	9	10
91	6	5	5	5	2	4	4	3	5	6	6	5	0	2	3	5	6
92	4	7	5	2	1	0	3	2	4	5	6	4	3	4	4	3	4



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93	3	5	5	4	1	3	3	4	2	4	6	3	1	2	4	5	3
94	7	3	5	4	0	3	2	6	6	6	5	4	0	2	6	5	7
95	5	4	2	4	0	2	1	5	5	4	4	2	3	3	4	4	5
96	4	5	3	3	1	2	3	3	3	5	3	4	1	1	3	5	4
97	1	3	5	4	0	2	2	5	5	4	5	4	0	2	3	5	1
98	4	3	4	2	0	2	4	2	1	4	2	0	1	3	4	0	4
99	3	3	5	2	0	3	2	3	3	2	3	5	0	0	2	4	3
100	5	4	3	4	0	4	2	4	4	1	1	1	3	1	2	5	5
101	5	5	2	3	2	3	2	3	2	3	4	2	0	2	2	3	5
102	3	4	3	1	0	2	1	4	3	4	4	3	0	2	3	2	3
103	2	4	2	3	0	2	4	3	3	3	2	2	1	1	3	3	2
104	4	4	2	5	0	2	4	5	4	4	2	1	0	0	3	3	4
105	2	4	2	3	0	1	3	4	2	2	3	1	1	0	3	4	2
106	2	4	1	4	0	1	1	3	4	5	2	3	0	1	2	4	2
107	4	4	2	3	0	1	1	2	3	4	4	2	0	0	5	3	4
108	4	1	3	1	1	1	3	3	3	4	3	3	2	0	2	2	4
109	3	3	3	3	0	2	3	3	2	3	4	1	0	0	3	2	3
110	2	3	3	2	0	1	3	4	4	4	3	2	0	2	4	2	2
111	2	1	4	1	0	0	3	0	3	2	3	3	0	2	0	0	2
112	3	4	2	2	0	0	2	4	4	3	3	4	0	1	4	3	3
113	3	3	1	2	0	1	1	2	2	4	1	2	0	0	3	1	3
114	2	2	3	3	0	0	2	4	3	2	3	4	0	0	2	3	2
115	4	3	0	2	0	3	3	4	2	1	3	3	0	2	1	1	4
116	0	4	1	2	0	2	1	3	3	3	2	4	1	1	2	4	0
117	3	4	4	1	1	2	2	3	1	3	2	3	0	2	3	4	3
118	3	3	2	2	0	0	2	3	3	6	4	2	0	2	1	2	3
119	3	5	4	2	0	3	1	1	3	2	3	2	1	0	2	0	3
120	2	4	2	2	0	0	3	2	4	5	2	2	0	1	0	3	2
121	1	4	3	1	0	0	2	2	2	1	3	1	0	0	3	1	1
122	3	3	0	2	0	2	2	5	3	5	4	2	1	0	2	4	3
123	3	4	3	1	0	1	2	2	4	2	3	0	0	2	3	3	3
124	2	2	1	3	0	3	2	4	3	3	4	0	0	0	3	4	2



i-LUMINOSITY

LED LIGHTING FIXTURES

125	1	5	1	2	0	1	2	3	4	3	5	1	0	0	2	1	1
126	3	3	4	2	0	3	2	3	3	3	4	3	0	0	2	1	3
127	3	4	1	3	0	3	3	5	6	2	4	3	1	1	4	2	3
128	3	2	3	0	1	0	4	5	3	2	5	3	0	1	0	4	3
129	2	5	2	1	2	0	2	4	3	2	5	4	0	1	4	3	2
130	3	4	3	4	0	3	2	3	3	3	4	2	2	0	3	3	3
131	4	6	2	3	1	1	2	6	3	4	5	2	1	1	1	3	4
132	3	4	4	4	0	0	1	4	2	3	4	2	0	0	4	4	3
133	4	2	4	4	2	3	3	2	2	4	2	3	1	3	4	5	4
134	3	3	4	2	2	3	0	2	4	5	2	4	1	2	4	2	3
135	3	4	4	3	1	2	3	3	3	3	4	3	1	2	2	3	3
136	4	4	3	1	4	1	3	3	5	3	4	3	3	2	2	4	4
137	3	4	2	4	3	1	3	5	3	4	3	3	1	1	5	5	3
138	1	3	6	3	0	2	0	3	3	4	5	2	2	2	3	4	1
139	3	1	2	4	2	0	2	5	5	5	5	5	2	0	3	5	3
140	2	6	6	3	1	3	1	4	6	5	7	0	0	2	2	2	2
141	5	5	4	4	0	1	4	4	3	4	5	3	1	2	5	4	5
142	5	6	6	4	0	1	2	4	3	5	4	3	0	3	4	5	5
143	6	3	4	3	1	1	5	5	5	4	5	5	3	1	4	2	6
144	5	3	6	4	3	1	3	5	3	5	7	3	3	0	5	4	5
145	3	6	4	5	0	3	4	4	4	6	5	4	2	3	4	4	3
146	6	4	4	2	1	3	6	2	6	4	4	5	1	2	4	4	6
147	3	3	5	2	2	2	3	4	5	6	4	3	1	1	3	4	3
148	5	4	5	4	3	2	4	4	3	4	5	1	2	2	4	6	5
149	5	5	5	4	2	3	3	4	5	5	5	1	2	1	2	5	5
150	5	5	2	3	2	3	5	3	3	3	3	5	3	1	4	4	5
151	4	6	5	5	2	2	5	5	5	5	4	4	1	3	4	5	4
152	5	5	5	4	4	4	3	4	4	4	7	2	4	2	6	5	5
153	5	5	3	2	2	4	5	2	5	4	3	4	2	4	4	4	5
154	3	4	8	4	2	2	3	4	5	4	6	1	5	3	4	4	3
155	4	7	7	5	0	2	5	4	5	5	5	6	5	3	5	5	4
156	4	8	4	5	0	3	5	5	2	4	4	4	3	2	6	6	4



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LED LIGHTING FIXTURES

157	6	4	5	5	1	2	7	7	5	5	4	2	0	5	6	2	6
158	4	6	4	4	2	0	6	4	5	5	6	5	2	4	5	5	4
159	4	7	6	4	0	3	6	4	5	5	2	3	2	1	4	4	4
160	5	6	4	5	0	1	4	5	3	4	6	3	2	2	4	5	5
161	3	4	5	6	0	3	5	4	3	7	3	4	2	2	4	5	3
162	4	5	1	5	1	3	4	4	5	7	4	4	2	2	3	3	4
163	5	6	4	5	1	3	5	6	6	6	6	3	2	4	5	5	5
164	6	4	3	5	2	1	6	4	6	6	5	4	3	3	5	6	6
165	6	5	5	5	2	3	5	6	5	6	6	3	3	4	4	3	6
166	4	6	4	5	1	3	5	7	3	4	4	4	2	4	4	5	4
167	6	5	8	6	3	3	3	4	6	5	5	5	2	4	6	7	6
168	5	7	2	6	2	4	5	6	4	5	5	6	5	4	5	4	5
169	5	3	4	6	2	3	3	5	5	5	5	6	1	3	4	6	5
170	5	7	5	4	1	2	6	6	6	7	5	4	3	4	7	5	5
171	5	6	3	6	2	4	6	5	6	5	5	6	3	6	7	6	5
172	5	8	7	5	3	6	6	5	3	5	6	5	4	3	6	5	5
173	6	6	4	5	3	4	6	4	4	4	4	4	4	5	4	6	6
174	4	5	3	6	0	3	5	5	6	4	4	6	3	4	4	6	4
175	5	6	3	6	1	1	5	4	5	4	6	4	3	5	5	5	5
176	3	4	5	2	1	4	4	7	5	7	4	4	2	4	5	6	3
177	6	5	3	4	1	3	6	6	3	6	5	4	2	3	4	5	6
178	3	5	5	5	0	3	4	5	5	5	4	3	3	2	3	4	3
179	5	5	3	6	2	4	1	6	5	4	5	4	1	3	3	5	5
180	4	4	5	3	2	2	10	5	6	19	4	5	3	2	5	3	4

2.2 Electrical, Photometric and Chromaticity Measurements

Test date	2018-2-19	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	IL		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC180100	120.0	60	0.5204	61.04	0.9775	14.35
8E-O-R2	277.0	60	0.2365	60.36	0.9213	9.09
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

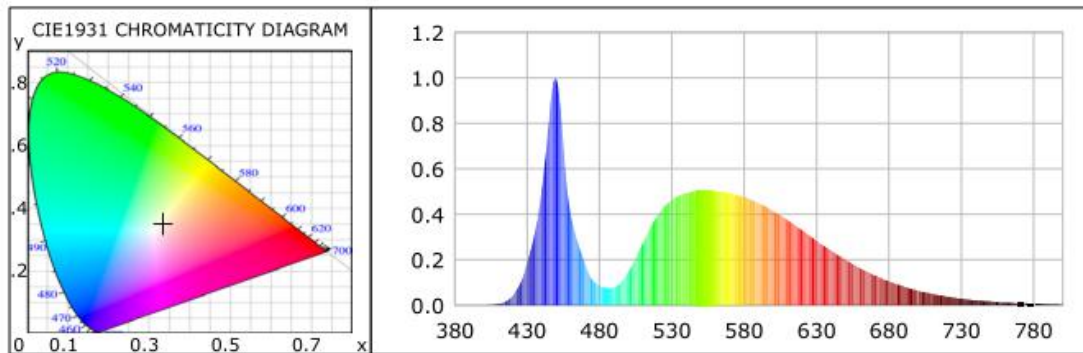
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	72	R9	0
Frequency (Hz)	60	R2	76	R10	41
CCT (K)	5428	R3	77	R11	71
Duv	0.00192	R4	74	R12	39
Chromaticity (x, y)	x=0.3342 y=0.3464	R5	72	R13	72
Chromaticity (u', v')	u(u')=0.2060 v'(v')=0.4805	R6	66	R14	87
Color Rendering Index (CRI)	72.7	R7	82	R15	69
R9	0	R8	63	--	--

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V4.2 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	8561.47	8454.63	5000- 10000(-10%)
Luminous Efficacy (lm/W)	140.26	140.07	Premium: >= 115(-3%)
Most worst Luminous/Highest Watts	138.51		

Spectral Power Distribution & Chromaticity Diagram



Calculated Efficacy Data for family models (4000K and 5000K):

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
IL	8389.54	60.5	138.67
	8432.52	60.77	138.76
	8475.51	60.77	139.47
	8561.47	61.04	140.26

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 *******