



Report No.: GZE150818-M2

NVLAP LAB CODE 201011-0

LM-79-08 Test Report

For

Premium Quality Lighting, Inc.

(Brand Name: Superior Life®)

2285 Ward Avenue
Simi Valley, CA 93065

Retrofit Kits for Outdoor Pole/Arm-mounted Area and Roadway Luminaires

Model name(s): 83470

Representative (Tested) Model: 83470

Model Different: N/A

Test & Report By:

Peeta Cao

Engineer: Peeta Cao

Date: Sep.08,2015

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

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320

Fax: 8620-32290422

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U.S. Department of Energy

Lighting Facts™ Uniform LM-79 Reporting Template
Laboratory Information:

Name of Test Laboratory	Standard-Tech Co., Ltd.
Date of Test Report	Sep.08,2015
Test Report No.	GZE150818-M2
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	Premium Quality Lighting	
Brand Name	Superior Life®	
Model Number	83470	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Retrofit Kits for Outdoor Pole/Arm-mounted Area and Roadway Luminaires	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Integrating Sphere
Goniophotometer
Electrical Measurements:
Output
Output

Input Wattage	--	46.41	W
Input Current	--	0.3896	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9926	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	5911.0	lm
Initial Lumen Efficacy	--	127.36	lm/w
Correlated color temperature / CCT	4974	--	K
Color rendering index / CRI	74.9	--	
R9 Value	0	--	
Duv	0.0038	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)		2083	cd
Beam angle (if applicable)		114.4	°
Zonal lumens in the 0°-60° zone		81.5	%
Zonal lumens in the 60°-90° zone	----	18.4	%
Zonal lumens in the 90°-120° zone		0	%
Zonal lumens in the 120°-180° zone		0.2	%

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Test Specifications:	
Date of Receipt	: Aug.08,2015
Date of Test	: Aug.15,2015
Test item	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
Reference Standard	IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources CIE 15-2004 Technical Report Colorimetry IESNA LM-16-93 Practical Guide to Colorimetry of Light Source IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

Test Methods

1. Photometric and Electrical measurements – Light Distribution 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 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. Photometric and Electrical Measurements – Integrating Sphere Method:

Photometric 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 Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at least 5 nm intervals over the range of 380 to 780 nm.

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1. Product Information:

Brand Name	Superior Life®
Model Number	83470
Luminaire Type	Retrofit Kits for Outdoor Pole/Arm-mounted Area and Roadway Luminaires
Rated Voltage / Frequency	100~ 277V, 50/60 Hz
Nominal Power	45W
Rated Initial Lamp Lumen	--
Declared CCT	5000K
LED Manufacturer	Nichia Corporation
LED Model	NF2L757DR (Nominal CCT: 2700 K)
Sample Receipt Date	Aug.08,2015
Sample Number	GZE150818-M21(5000K)

Photo



2.1 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
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Test date	2015-08-15	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	83470		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE150818	120.0	60	0.3896	46.41	0.9926	7.56
-M21	277.0	60	0.1854	46.28	0.9014	10.48

Sphere-Spectroradiometer Method in GE M250R2 Roadway Lamp:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	72	R9	0
Frequency (Hz)	60	R2	80	R10	51
Color Rendering Index (CRI)	74.9	R3	85	R11	69
R9	0	R4	74	R12	39
CCT (K)	4974	R5	71	R13	74
Chromaticity (x, y)	x=0.3466y=0.3605	R6	71	R14	91
Chromaticity (u', v')	u'=0.2090v'=0.4892	R7	85	R15	67
Duv	0.0038	R8	60	--	--

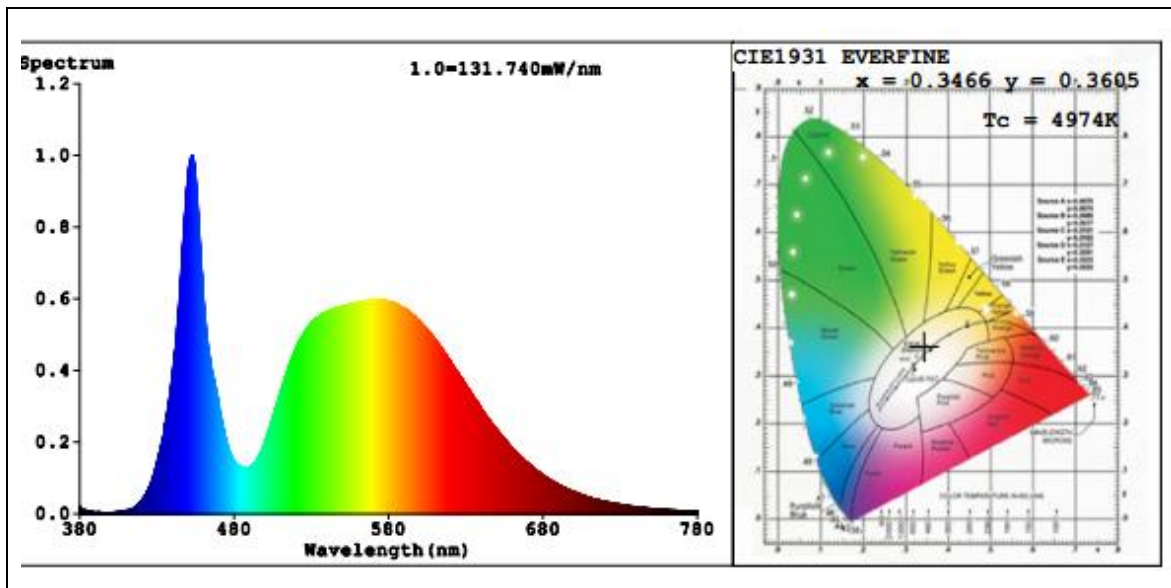
Goniophotometer Method in GE M250R2 Roadway Lamp:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	5911.0
Luminous Efficacy (lm/W)	127.36
Beam Angle °	114.4
Center Beam Candle Power (cd)	2083

Goniophotometer Method in GE M250R2 Roadway Lamp:

Parameter	Result
Test Voltage (V)	277.1
Frequency (Hz)	60
Total Luminous (lm)	5915.4
Luminous Efficacy (lm/W)	127.82

Spectral Power Distribution & Chromaticity Diagram



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Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	1,638.0	27.7%
0-40	2,701.0	45.7%
0-60	4,814.9	81.5%
60-90	1,086.5	18.4%
70-100	373.0	6.3%
90-120	2.1	0%
0-90	5,901.5	99.8%
90-180	8.9	0.2%
0-180	5,910.4	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	197.3	3.3%	90-100	0.3	0%
10-20	569.3	9.6%	100-110	1.0	0%
20-30	871.5	14.7%	110-120	0.8	0%
30-40	1,063.0	18.0%	120-130	1.2	0%
40-50	1,114.1	18.8%	130-140	1.5	0%
50-60	999.9	16.9%	140-150	1.5	0%
60-70	713.8	12.1%	150-160	1.3	0%
70-80	328.2	5.6%	160-170	0.9	0%
80-90	44.5	0.8%	170-180	0.4	0%

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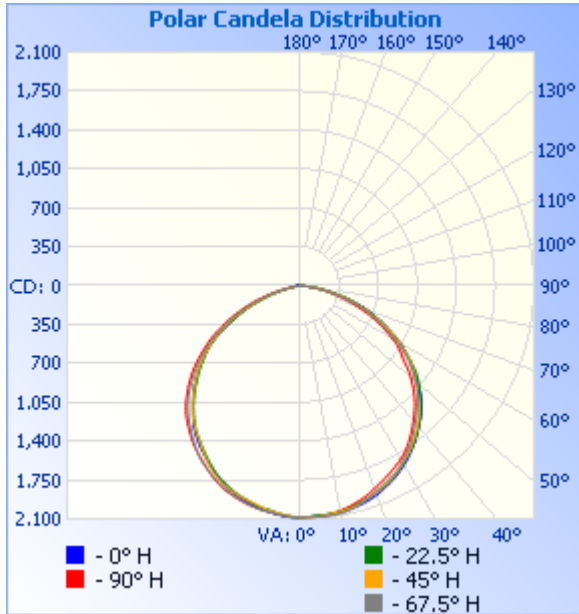
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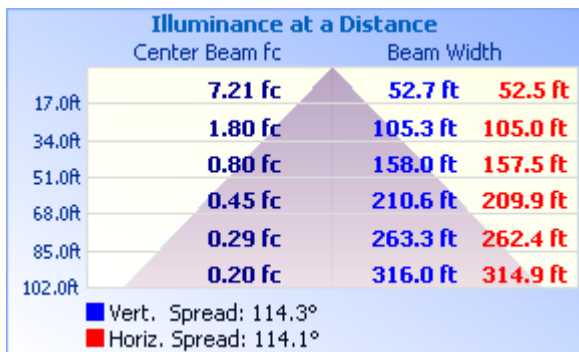
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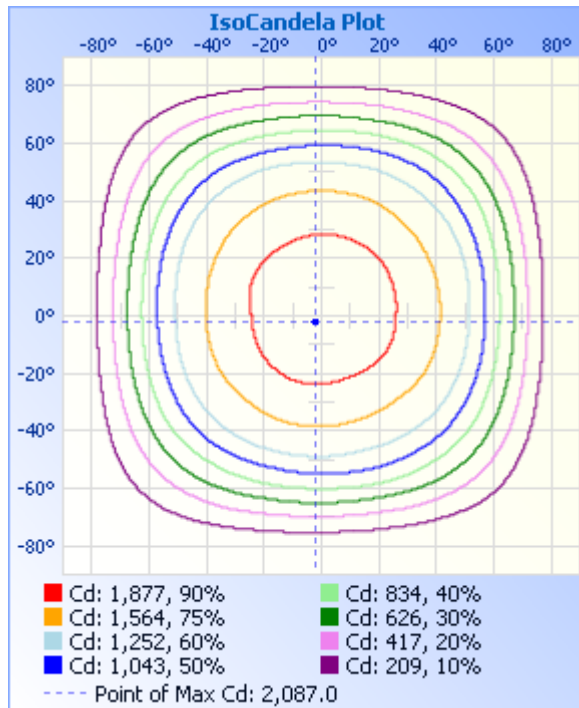
Photometric Data



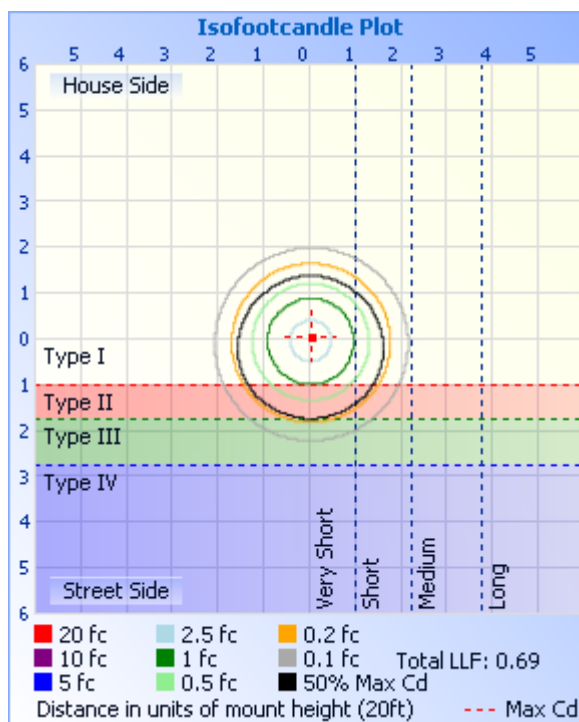
Illuminance Plots



ISOCANDELA DIAGRAM



ISOLUX DIAGRAM



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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	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
1	2083	2082	2085	2085	2085	2084	2085	2081	2085	2085	2081	2083	2082	2082	2080	2085	2083
2	2081	2080	2086	2087	2086	2085	2087	2078	2085	2083	2077	2080	2080	2079	2077	2086	2081
3	2080	2077	2084	2087	2085	2083	2087	2075	2083	2079	2072	2078	2076	2077	2075	2087	2080
4	2080	2073	2082	2086	2083	2082	2085	2070	2080	2071	2067	2074	2073	2073	2073	2087	2080
5	2082	2072	2080	2085	2079	2078	2081	2064	2074	2062	2061	2070	2069	2069	2070	2086	2082
6	2081	2072	2078	2084	2076	2074	2077	2058	2067	2054	2056	2066	2064	2064	2066	2083	2081
7	2080	2072	2074	2083	2072	2071	2072	2053	2061	2045	2050	2060	2060	2061	2062	2078	2080
8	2076	2070	2071	2084	2068	2068	2064	2049	2055	2037	2043	2056	2054	2058	2059	2073	2076
9	2072	2068	2067	2083	2062	2064	2057	2046	2048	2032	2034	2053	2049	2055	2057	2069	2072
10	2068	2064	2064	2081	2055	2060	2050	2041	2040	2026	2024	2048	2044	2053	2055	2066	2068
11	2063	2060	2060	2076	2048	2056	2044	2036	2032	2018	2014	2042	2039	2050	2054	2061	2063
12	2059	2052	2054	2069	2039	2048	2037	2032	2023	2008	2004	2034	2034	2046	2053	2058	2059
13	2056	2044	2049	2061	2030	2038	2028	2027	2015	1998	1996	2026	2027	2041	2049	2055	2056
14	2051	2037	2042	2051	2020	2024	2017	2020	2005	1988	1988	2019	2020	2036	2045	2052	2051
15	2046	2028	2035	2040	2010	2009	2006	2010	1994	1978	1981	2010	2011	2030	2040	2047	2046
16	2039	2018	2025	2027	1998	1993	1993	2000	1982	1969	1972	2001	2003	2023	2033	2040	2039
17	2031	2011	2014	2013	1985	1979	1979	1988	1972	1957	1964	1990	1993	2015	2024	2031	2031
18	2022	2002	2003	1999	1973	1966	1964	1974	1961	1944	1954	1978	1982	2005	2015	2020	2022
19	2013	1992	1992	1986	1959	1954	1949	1958	1948	1930	1944	1968	1973	1992	2005	2010	2013
20	2003	1983	1981	1973	1943	1942	1935	1942	1932	1917	1933	1958	1963	1980	1994	2000	2003
21	1990	1973	1971	1959	1928	1929	1922	1928	1915	1902	1920	1947	1952	1966	1981	1988	1990
22	1977	1964	1960	1946	1915	1915	1909	1912	1898	1888	1905	1933	1936	1953	1966	1974	1977
23	1965	1954	1949	1933	1901	1901	1897	1895	1881	1873	1890	1916	1921	1938	1953	1960	1965
24	1953	1942	1937	1921	1887	1886	1882	1878	1864	1855	1872	1899	1905	1923	1939	1948	1953
25	1940	1928	1923	1908	1874	1871	1867	1862	1845	1836	1854	1883	1887	1908	1924	1935	1940
26	1925	1913	1908	1897	1860	1858	1853	1844	1826	1815	1834	1867	1869	1891	1909	1920	1925
27	1910	1898	1894	1884	1846	1844	1838	1825	1807	1794	1812	1851	1849	1874	1893	1905	1910
28	1895	1883	1877	1869	1832	1829	1820	1805	1786	1773	1788	1835	1831	1857	1878	1888	1895
29	1878	1867	1860	1852	1818	1812	1801	1782	1767	1751	1764	1818	1813	1840	1865	1871	1878

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30	1861	1850	1842	1832	1803	1793	1782	1759	1746	1729	1740	1800	1794	1824	1849	1853	1861
31	1844	1832	1824	1813	1786	1773	1761	1735	1726	1707	1717	1779	1777	1808	1831	1835	1844
32	1826	1815	1808	1792	1768	1750	1735	1712	1706	1685	1693	1756	1759	1790	1812	1814	1826
33	1805	1798	1790	1773	1748	1729	1708	1688	1685	1665	1669	1734	1741	1772	1791	1794	1805
34	1784	1780	1770	1752	1726	1708	1681	1667	1664	1645	1647	1712	1721	1753	1769	1774	1784
35	1764	1761	1749	1730	1703	1687	1655	1643	1641	1623	1626	1688	1699	1734	1744	1752	1764
36	1743	1742	1728	1706	1680	1666	1630	1619	1619	1601	1606	1662	1678	1711	1718	1732	1743
37	1721	1721	1706	1682	1657	1641	1604	1596	1593	1576	1582	1636	1656	1686	1692	1710	1721
38	1699	1699	1684	1657	1631	1614	1575	1575	1566	1550	1559	1612	1634	1660	1667	1690	1699
39	1677	1676	1663	1631	1605	1586	1549	1550	1538	1524	1534	1588	1610	1633	1641	1668	1677
40	1654	1653	1640	1606	1580	1558	1524	1524	1507	1497	1508	1565	1588	1605	1615	1645	1654
41	1633	1630	1615	1583	1556	1530	1501	1500	1476	1468	1481	1539	1566	1575	1591	1621	1633
42	1611	1607	1588	1560	1531	1503	1477	1473	1446	1438	1453	1514	1541	1546	1567	1598	1611
43	1588	1583	1560	1537	1508	1477	1451	1441	1421	1408	1425	1487	1513	1516	1544	1576	1588
44	1562	1558	1531	1513	1482	1449	1423	1410	1394	1377	1393	1459	1485	1486	1521	1553	1562
45	1538	1531	1500	1490	1453	1419	1392	1377	1364	1346	1360	1429	1454	1457	1494	1527	1538
46	1510	1503	1472	1467	1424	1392	1362	1346	1335	1315	1331	1397	1422	1427	1467	1501	1510
47	1482	1475	1443	1442	1393	1363	1332	1314	1304	1282	1303	1363	1390	1403	1438	1474	1482
48	1450	1449	1415	1415	1361	1334	1302	1280	1272	1250	1273	1327	1360	1380	1406	1447	1450
49	1414	1421	1388	1383	1328	1303	1270	1248	1239	1220	1240	1292	1327	1356	1374	1416	1414
50	1377	1393	1359	1351	1298	1271	1235	1213	1205	1188	1208	1256	1292	1329	1342	1383	1377
51	1342	1364	1331	1318	1264	1237	1199	1172	1171	1157	1176	1220	1257	1298	1308	1349	1342
52	1308	1333	1303	1286	1228	1206	1159	1132	1134	1124	1142	1182	1221	1264	1271	1312	1308
53	1275	1303	1275	1256	1188	1174	1122	1094	1097	1093	1107	1147	1183	1229	1237	1276	1275
54	1246	1264	1243	1225	1149	1141	1087	1056	1061	1063	1070	1109	1146	1192	1204	1240	1246
55	1211	1224	1211	1192	1118	1104	1053	1023	1028	1032	1034	1071	1108	1154	1172	1207	1211
56	1175	1185	1178	1155	1091	1065	1019	987	995	997	999	1036	1068	1112	1138	1174	1175
57	1140	1146	1140	1119	1065	1023	981	951	956	960	963	999	1030	1070	1107	1142	1140
58	1106	1106	1103	1078	1034	981	938	914	914	920	924	960	991	1026	1075	1106	1106
59	1072	1064	1064	1033	997	944	896	876	864	876	878	920	952	985	1044	1069	1072
60	1038	1025	1030	986	956	909	852	837	815	829	831	875	912	946	1013	1030	1038
61	998	986	993	945	915	871	808	795	771	782	787	827	867	909	980	989	998

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62	957	944	956	910	875	830	770	750	727	732	745	782	817	874	937	953	957
63	913	903	915	870	836	790	735	705	686	678	711	741	776	836	890	916	913
64	872	868	869	827	797	748	699	657	647	636	675	704	739	795	840	874	872
65	832	830	822	784	753	709	663	614	609	601	631	665	698	754	793	831	832
66	789	791	776	742	711	669	620	572	568	564	580	621	654	713	748	786	789
67	747	749	734	703	671	617	572	532	523	520	533	578	609	671	710	739	747
68	713	706	693	664	626	568	525	492	476	474	489	537	563	623	669	692	713
69	675	665	656	628	578	531	486	453	437	430	448	493	523	570	626	650	675
70	635	623	615	588	536	489	446	414	397	386	407	447	480	526	578	609	635
71	592	585	573	538	500	443	403	374	348	345	364	399	441	486	531	559	592
72	548	548	522	491	459	405	362	331	310	309	326	355	399	439	485	517	548
73	503	497	479	452	420	368	316	289	276	271	287	315	349	393	441	480	503
74	459	451	440	414	372	328	284	252	242	231	248	275	312	351	396	438	459
75	408	412	400	370	331	290	254	221	205	200	211	239	276	318	351	395	408
76	363	376	358	330	294	257	222	189	171	170	181	207	235	281	314	354	363
77	324	335	319	292	259	216	185	158	143	139	150	170	196	239	272	311	324
78	290	295	281	256	226	189	157	129	114	113	119	140	164	204	236	270	290
79	253	252	243	219	192	159	127	103	89	88	95	113	135	167	202	238	253
80	217	215	210	184	162	128	103	82	69	68	71	86	106	137	168	202	217
81	183	183	177	157	132	101	80	61	51	48	49	61	80	109	138	166	183
82	148	153	145	128	105	72	52	40	30	30	30	38	55	85	109	135	148
83	112	123	118	100	75	45	30	21	16	16	17	21	33	62	84	104	112
84	72	88	92	73	46	24	15	11	9	9	10	12	18	39	62	69	72
85	41	54	67	47	25	12	8	6	4	4	6	9	11	21	41	40	41
86	18	25	40	26	12	7	3	1	1	1	1	4	7	12	22	18	18
87	6	8	18	12	7	2	1	1	0	0	0	0	2	7	9	6	6
88	1	2	5	6	2	0	0	0	0	0	0	0	0	2	2	1	1
89	0	0	1	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
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	1	14	1	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	1	26	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	1	31	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	1	35	1	0	0	0	0	0	0	0
103	0	0	0	0	0	0	1	1	19	1	0	0	0	0	0	0	0
104	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0
105	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0
106	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
107	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
108	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
109	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
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111	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
112	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
113	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
114	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
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116	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0
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118	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0
119	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
121	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
122	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1
123	1	1	1	1	1	2	1	2	2	2	1	1	1	1	1	1	1
124	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1
125	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1

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126	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
127	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
128	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	2	1
129	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	2	1
130	2	1	1	1	2	2	2	2	2	2	2	2	2	1	1	2	2
131	2	1	1	1	2	2	2	2	2	2	2	2	2	1	1	2	2
132	2	2	1	1	2	2	2	2	2	2	2	2	2	1	1	2	2
133	2	2	1	1	2	2	2	2	2	2	2	2	2	1	1	2	2
134	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2
135	2	2	2	2	2	2	2	3	2	3	2	2	2	1	1	2	2
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137	2	2	2	2	2	2	2	3	2	3	2	2	2	1	1	2	2
138	2	2	2	2	3	2	2	3	2	3	2	3	2	2	1	2	2
139	2	2	2	2	3	2	2	3	2	3	2	3	2	2	1	2	2
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141	2	2	2	2	3	3	2	3	2	3	2	3	2	2	1	2	2
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147	2	2	2	2	3	3	3	3	3	3	3	3	2	2	2	2	2
148	2	2	2	2	3	3	3	3	3	3	3	3	2	2	2	3	2
149	2	2	2	2	3	3	3	3	3	3	3	3	2	2	2	3	2
150	3	2	2	2	3	3	3	3	3	3	3	3	2	2	2	3	3
151	3	2	2	2	3	3	3	3	3	3	3	3	2	2	2	3	3
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154	3	2	3	2	3	3	4	4	3	3	3	3	2	2	2	3	3
155	3	3	3	2	3	4	4	4	3	3	3	3	2	2	3	3	3
156	3	2	3	2	3	4	4	4	3	3	3	4	2	2	3	3	3
157	3	3	3	2	3	4	4	4	3	3	3	4	2	2	3	3	3

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158	3	3	3	2	3	4	4	4	3	3	3	4	2	2	3	3	3
159	3	3	3	2	3	4	4	4	3	3	3	4	2	2	3	3	3
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161	3	3	3	3	3	4	4	4	3	3	3	4	3	2	3	3	3
162	3	3	3	3	4	4	4	4	3	3	3	4	3	2	3	3	3
163	3	3	3	3	4	4	4	4	3	3	3	4	3	2	3	3	3
164	3	3	3	3	4	4	4	4	3	3	3	4	3	2	3	3	3
165	3	3	3	3	4	4	4	4	3	3	3	4	3	3	3	3	3
166	3	3	3	3	4	4	4	4	3	3	3	4	3	3	3	3	3
167	3	3	3	3	4	4	4	4	4	3	3	4	3	3	3	3	3
168	3	3	3	3	4	4	4	4	4	3	4	4	3	3	3	3	3
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172	4	3	4	3	4	4	4	4	4	4	4	4	3	3	4	3	4
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176	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4
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179	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4
180	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2015-07-01	2016-06-30
ST-R-331	Spectral analysis system HAAS-2000	2015-07-01	2016-06-30
D204	Standard Lamp	2015-07-01	2016-06-30
PF2010	Power Meter for Integrating Sphere	2015-07-01	2016-06-30
EE-09	Goniophotometer system	2015-07-01	2016-06-30
D908S	Standard Lamp	2015-07-01	2016-06-30
PF210	Power Meter for Goniophotometer	2015-07-01	2016-06-30
ST-R-181A	Temperature Tester	2015-07-01	2016-06-30
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

******* END OF DATASHEET PACKAGE *******