



Report No.: GZE150818-M3

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): 83472

Representative (Tested) Model: 83472

Model Different: N/A

Test & Report By:

*Peeta Cao*

Engineer: Peeta Cao

Date: Sep,09.2015

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

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

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,09.2015
Test Report No.	GZE150818-M3
Laboratory Contact Name	Tommy Liang

**Product Information:**

Organization Name	Premium Quality Lighting	
Brand Name	Superior Life®	
Model Number	83472	
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	--	46.00	W
Input Current	--	0.3860	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9932	
Off-State Power	--	0	W

**Photometric Characteristics**

Total Initial Lumen Output	--	5770.4	lm
Initial Lumen Efficacy	--	125.43	lm/w
Correlated color temperature / CCT	4146	--	K
Color rendering index / CRI	74.7	--	
R9 Value	0	--	
Duv	-0.0009	--	
<b>Luminous Intensity Distribution</b>			
Center beam candlepower (if applicable)		2065	cd
Beam angle (if applicable)		113.7	°
Zonal lumens in the 0°-60° zone		82	%
Zonal lumens in the 60°-90° zone	-----	17.9	%
Zonal lumens in the 90°-120° zone		0	%
Zonal lumens in the 120°-180° zone		0.1	%

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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  $1\text{ }^{\circ}$  vertical intervals and  $22.5\text{ }^{\circ}$  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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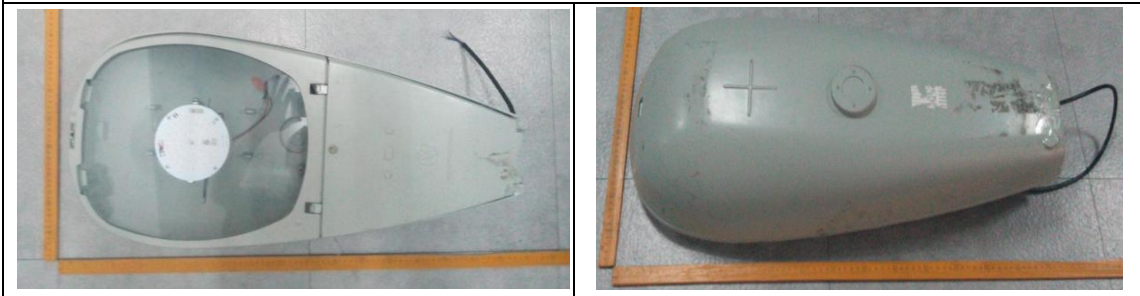
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**1. Product Information:**

Brand Name	Superior Life®
Model Number	83472
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	4000K
LED Manufacturer	Nichia Corporation
LED Model	NF2L757DR (Nominal CCT: 2700 K)
Sample Receipt Date	Aug.08,2015
Sample Number	GZE150818-M31(4000K)

**Photo**



<b>2.1 Electrical, Photometric and Chromaticity Measurements</b> (Refer to Work Instruction QD25)	<b>IES LM-79 2008</b>
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<b>Test date</b>	2015-08-15	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	83472		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE150818	120.0	60	0.3860	46.00	0.9932	6.34
-M31	277.1	60	0.1791	45.79	0.9225	8.47

**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	82	R10	57
Color Rendering Index (CRI)	74.7	R3	89	R11	69
R9	0	R4	73	R12	50
CCT (K)	4146	R5	72	R13	73
Chromaticity (x, y)	x=0.3736 y=0.3704	R6	74	R14	94
Chromaticity (u', v')	u'=0.2231 v'=0.4977	R7	82	R15	66
Duv	-0.0009	R8	55	--	--

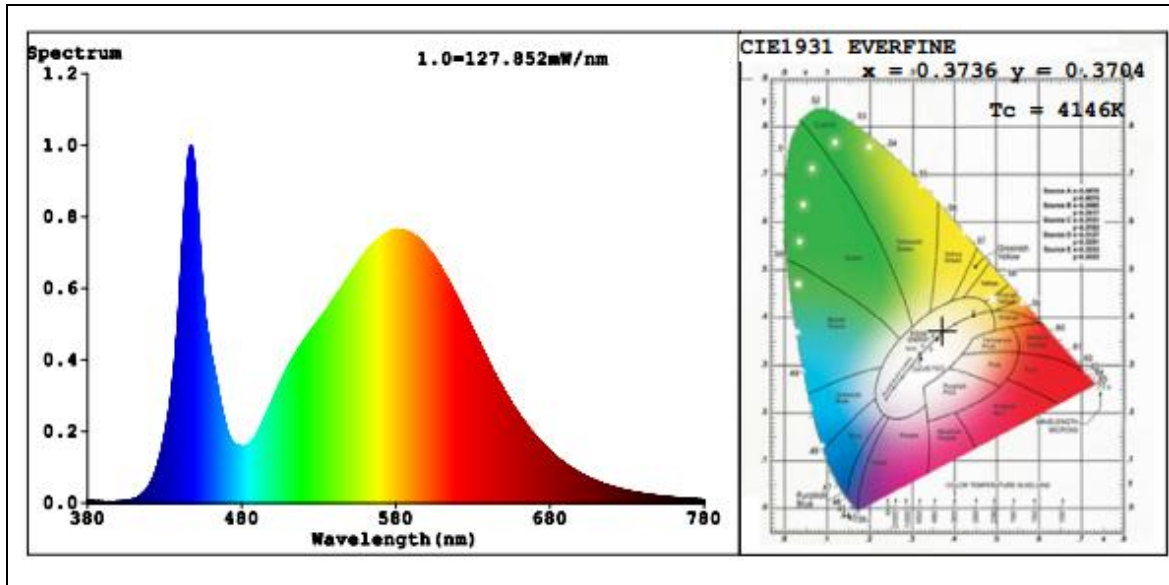
**Goniophotometer Method in GE M250R2 Roadway Lamp:**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	5770.4
Luminous Efficacy (lm/W)	125.43
Beam Angle °	113.7
Center Beam Candle Power (cd)	2065

**Goniophotometer Method in GE M250R2 Roadway Lamp:**

Parameter	Result
Test Voltage (V)	277.1
Frequency (Hz)	60
Total Luminous (lm)	5775.8
Luminous Efficacy (lm/W)	126.14

**Spectral Power Distribution & Chromaticity Diagram**



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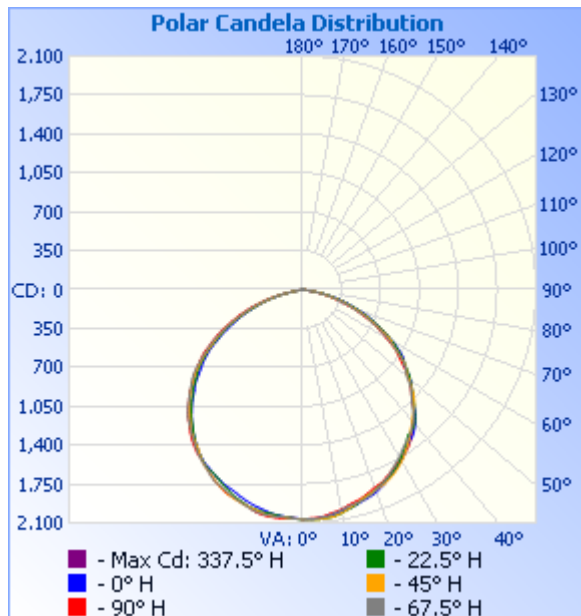
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**Zonal Lumen Tabulation**

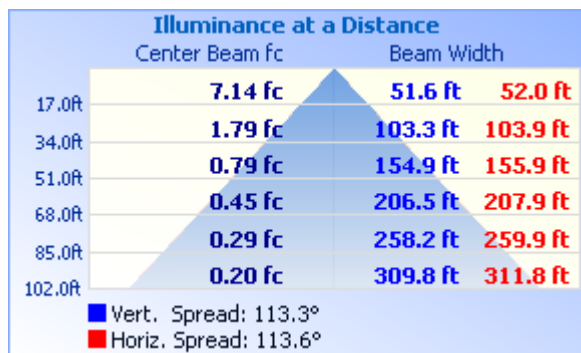
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	1,613.0	28%
0-40	2,661.0	46.1%
0-60	4,732.7	82%
60-90	1,032.8	17.9%
70-100	336.3	5.8%
90-120	0.3	0%
0-90	5,765.5	99.9%
90-180	4.2	0.1%
0-180	5,769.7	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	195.4	3.4%	90-100	0.0	0%
10-20	560.0	9.7%	100-110	0.1	0%
20-30	857.6	14.9%	110-120	0.2	0%
30-40	1,048.0	18.2%	120-130	0.4	0%
40-50	1,092.9	18.9%	130-140	0.7	0%
50-60	978.8	17.0%	140-150	0.9	0%
60-70	696.5	12.1%	150-160	0.9	0%
70-80	313.7	5.4%	160-170	0.7	0%
80-90	22.6	0.4%	170-180	0.2	0%

### Photometric Data



### Illuminance Plots



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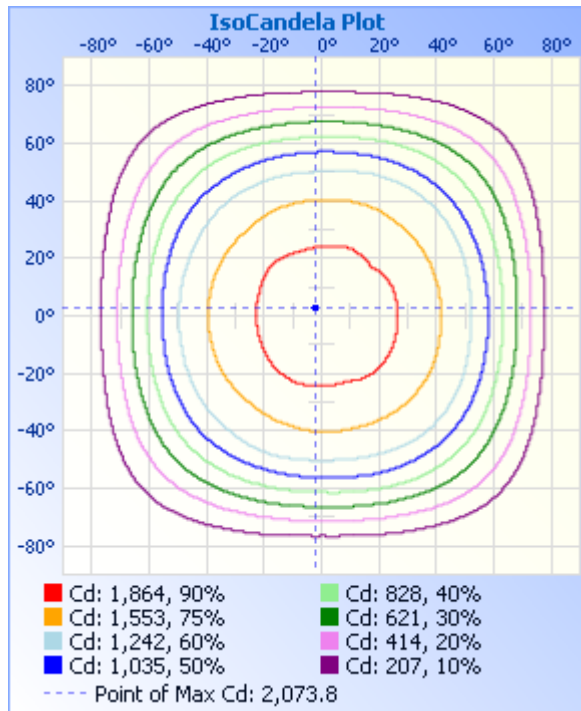
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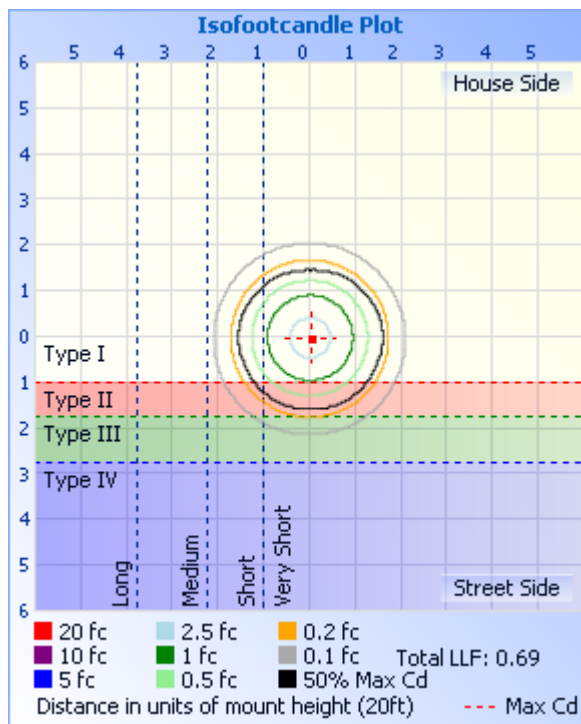
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### ISOCANDELA DIAGRAM



### 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	2065	2065	2065	2065	2065	2065	2065	2065	2065	2065	2065	2065	2065	2065	2065	2065	2065
1	2068	2067	2068	2064	2062	2061	2059	2059	2061	2065	2061	2065	2063	2068	2067	2069	2068
2	2067	2070	2067	2063	2059	2057	2055	2057	2055	2061	2059	2063	2061	2068	2064	2072	2067
3	2066	2071	2069	2063	2058	2053	2048	2051	2047	2056	2059	2059	2062	2066	2060	2073	2066
4	2063	2071	2072	2060	2056	2050	2044	2048	2048	2051	2057	2056	2063	2069	2057	2074	2063
5	2058	2068	2065	2056	2050	2045	2040	2047	2047	2049	2055	2053	2064	2072	2052	2071	2058
6	2055	2066	2066	2050	2042	2041	2034	2047	2043	2046	2055	2054	2065	2070	2047	2067	2055
7	2047	2065	2063	2043	2032	2037	2028	2044	2038	2041	2056	2055	2066	2064	2041	2060	2047
8	2040	2059	2059	2034	2023	2030	2019	2038	2033	2036	2054	2054	2064	2055	2035	2049	2040
9	2032	2051	2048	2025	2016	2023	2010	2033	2023	2034	2050	2052	2062	2044	2031	2038	2032
10	2025	2040	2038	2013	2007	2016	2001	2029	2013	2033	2045	2049	2058	2032	2024	2026	2025
11	2018	2027	2026	2001	1996	2008	1991	2019	2003	2027	2035	2045	2052	2021	2018	2019	2018
12	2012	2016	2011	1993	1983	2000	1984	2007	1996	2022	2025	2040	2042	2013	2010	2013	2012
13	2004	2005	1997	1986	1973	1995	1979	1990	1987	2016	2019	2031	2029	2006	2004	2006	2004
14	1994	1995	1984	1981	1965	1982	1974	1977	1976	2010	2012	2019	2014	1997	2000	2001	1994
15	1984	1979	1970	1976	1957	1967	1967	1968	1964	1997	2006	2008	2001	1988	1996	1996	1984
16	1975	1959	1957	1971	1948	1952	1953	1959	1953	1986	1998	1997	1992	1978	1986	1993	1975
17	1967	1946	1946	1961	1932	1936	1940	1950	1941	1976	1988	1984	1983	1967	1975	1987	1967
18	1959	1936	1938	1951	1919	1919	1931	1942	1926	1961	1981	1971	1974	1959	1963	1977	1959
19	1950	1929	1931	1939	1906	1906	1922	1936	1914	1946	1971	1959	1968	1954	1948	1964	1950
20	1938	1919	1922	1923	1897	1894	1912	1930	1904	1929	1959	1948	1960	1945	1931	1953	1938
21	1924	1903	1911	1906	1886	1885	1904	1923	1897	1913	1944	1936	1949	1940	1915	1939	1924
22	1909	1889	1904	1894	1877	1876	1895	1913	1887	1897	1930	1923	1934	1931	1898	1926	1909
23	1892	1878	1896	1877	1865	1866	1882	1896	1873	1882	1915	1913	1919	1916	1879	1912	1892
24	1873	1867	1884	1858	1850	1852	1862	1876	1862	1863	1899	1903	1901	1902	1864	1894	1873
25	1856	1853	1868	1840	1835	1839	1841	1855	1848	1848	1882	1890	1885	1886	1852	1876	1856
26	1841	1837	1853	1817	1817	1823	1826	1835	1836	1836	1864	1875	1866	1871	1841	1858	1841
27	1826	1820	1838	1796	1801	1803	1808	1816	1822	1827	1847	1852	1846	1854	1836	1843	1826
28	1810	1804	1822	1776	1789	1778	1791	1797	1809	1819	1832	1831	1828	1836	1824	1826	1810
29	1794	1786	1802	1756	1776	1754	1772	1778	1797	1806	1814	1813	1808	1820	1811	1809	1794

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30	1777	1762	1784	1736	1763	1732	1749	1764	1783	1787	1794	1796	1790	1808	1801	1794	1777
31	1757	1737	1762	1718	1748	1713	1728	1752	1764	1768	1771	1779	1774	1795	1785	1780	1757
32	1732	1712	1737	1696	1735	1701	1706	1740	1745	1746	1746	1759	1762	1779	1764	1760	1732
33	1709	1692	1712	1676	1718	1692	1686	1726	1724	1727	1721	1739	1746	1758	1739	1740	1709
34	1690	1669	1690	1659	1701	1680	1666	1705	1700	1704	1698	1716	1727	1737	1713	1719	1690
35	1674	1640	1666	1644	1680	1657	1643	1678	1677	1679	1680	1694	1705	1713	1688	1695	1674
36	1657	1617	1638	1632	1657	1630	1618	1648	1653	1652	1662	1671	1685	1688	1662	1677	1657
37	1644	1607	1611	1615	1633	1606	1594	1612	1629	1627	1643	1650	1663	1658	1641	1657	1644
38	1625	1601	1584	1592	1605	1583	1566	1582	1603	1600	1624	1628	1639	1630	1620	1630	1625
39	1600	1590	1559	1571	1578	1558	1537	1551	1577	1574	1597	1604	1612	1606	1597	1608	1600
40	1573	1567	1534	1548	1552	1534	1509	1526	1552	1551	1571	1582	1587	1582	1575	1586	1573
41	1544	1538	1511	1521	1528	1508	1487	1501	1523	1526	1544	1562	1562	1560	1550	1564	1544
42	1513	1506	1489	1488	1498	1474	1463	1476	1493	1497	1518	1541	1537	1532	1523	1538	1513
43	1477	1474	1468	1451	1464	1434	1436	1446	1463	1469	1493	1515	1509	1504	1495	1508	1477
44	1439	1445	1445	1418	1427	1394	1408	1411	1435	1440	1465	1485	1479	1477	1468	1482	1439
45	1404	1414	1419	1388	1393	1360	1382	1379	1402	1410	1440	1455	1449	1451	1444	1455	1404
46	1374	1381	1392	1361	1362	1335	1349	1353	1364	1380	1413	1423	1422	1425	1419	1427	1374
47	1346	1351	1359	1335	1334	1313	1315	1327	1332	1354	1382	1390	1395	1397	1387	1397	1346
48	1321	1321	1324	1308	1309	1292	1284	1306	1309	1325	1353	1361	1360	1368	1360	1362	1321
49	1294	1288	1284	1269	1280	1271	1254	1287	1277	1289	1324	1332	1323	1340	1331	1332	1294
50	1264	1262	1244	1228	1248	1238	1221	1258	1239	1253	1294	1303	1292	1317	1300	1307	1264
51	1232	1237	1209	1200	1214	1196	1191	1225	1199	1226	1264	1278	1260	1292	1274	1275	1232
52	1198	1201	1184	1181	1175	1154	1157	1184	1168	1201	1229	1245	1235	1255	1250	1244	1198
53	1157	1167	1161	1156	1134	1121	1121	1144	1135	1172	1191	1211	1204	1215	1221	1215	1157
54	1128	1136	1132	1130	1099	1089	1088	1101	1106	1132	1152	1170	1165	1172	1181	1185	1128
55	1111	1107	1094	1092	1063	1060	1057	1056	1071	1092	1114	1131	1133	1125	1133	1149	1111
56	1090	1074	1055	1050	1031	1024	1021	1020	1033	1054	1074	1091	1101	1081	1092	1109	1090
57	1058	1037	1009	1006	1001	987	975	979	997	1022	1033	1049	1067	1046	1060	1068	1058
58	1015	1003	968	967	959	953	930	943	957	982	986	1010	1032	1012	1018	1022	1015
59	979	971	942	928	916	915	895	898	908	932	946	972	983	981	982	979	979
60	942	934	919	887	871	875	858	848	866	885	913	932	942	950	947	942	942
61	896	890	885	846	832	824	825	823	829	848	872	893	904	907	914	911	896

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62	855	853	839	801	789	776	773	791	777	817	827	847	865	876	882	882	855
63	814	812	792	770	760	745	730	751	743	778	794	806	823	836	842	844	814
64	773	769	748	728	721	695	697	707	698	732	759	764	780	793	796	796	773
65	731	726	709	682	683	658	659	661	657	685	708	717	735	754	754	754	731
66	690	689	664	650	637	627	624	620	627	638	661	674	693	714	713	718	690
67	663	648	632	615	592	586	575	576	577	599	616	627	655	674	665	673	663
68	622	603	591	562	553	539	531	534	539	551	571	585	613	628	618	623	622
69	577	564	547	516	514	502	494	499	499	509	529	543	567	582	586	576	577
70	534	522	501	477	480	455	442	453	463	465	494	507	527	547	543	541	534
71	489	481	461	446	431	417	406	411	415	427	447	471	489	500	503	507	489
72	452	441	424	410	389	379	374	369	371	391	402	425	442	458	460	472	452
73	421	407	389	364	362	336	334	337	337	348	360	378	397	417	424	429	421
74	378	369	351	329	317	300	298	297	294	306	323	339	359	373	381	387	378
75	339	327	311	291	280	266	256	257	256	267	279	297	315	333	342	347	339
76	303	289	270	256	246	224	223	228	219	229	239	241	270	293	304	306	303
77	264	254	236	218	213	198	190	189	175	188	188	191	217	254	266	267	264
78	224	219	199	185	180	163	156	152	124	142	138	142	163	214	225	232	224
79	186	186	169	157	151	128	116	103	77	92	94	98	119	167	193	198	186
80	134	147	137	127	113	87	77	63	42	53	57	61	80	122	158	153	134
81	87	102	110	101	77	52	43	33	20	27	31	33	48	84	127	105	87
82	47	63	87	71	45	27	20	15	11	12	14	16	25	53	88	61	47
83	21	32	58	43	23	15	13	9	7	8	8	9	12	30	51	29	21
84	12	13	31	23	14	11	9	6	5	5	6	7	8	15	24	11	12
85	9	9	14	12	11	8	5	3	2	2	3	4	6	8	10	8	9
86	5	6	8	9	8	5	2	1	1	1	1	2	3	5	6	4	5
87	3	3	4	6	5	2	1	0	0	1	0	0	1	3	2	2	3
88	1	1	2	2	2	0	0	0	0	0	0	0	0	0	1	1	1
89	0	1	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
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	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	0
97	0	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	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	2	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	0
103	0	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	0
105	0	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	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0
118	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0
119	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0
120	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0
121	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0
122	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0
123	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0
124	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
125	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0

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126	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
127	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
128	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
129	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
130	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
131	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
132	1	1	1	0	1	1	1	1	1	1	1	1	0	0	0	0	1
133	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
134	1	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	1
135	0	1	1	1	1	1	1	1	2	2	1	1	0	0	0	1	0
136	1	1	1	1	2	1	1	1	1	2	1	1	0	0	0	1	1
137	1	1	1	1	1	1	1	2	2	2	1	1	0	0	0	1	1
138	1	1	1	1	2	1	1	2	2	2	1	1	1	1	0	1	1
139	1	1	1	1	2	1	1	2	2	2	2	2	1	1	0	1	1
140	1	1	1	1	2	2	2	2	2	2	2	2	1	1	0	1	1
141	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
142	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
143	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
144	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
145	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
146	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
147	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
148	1	2	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
149	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1
150	2	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	2
151	2	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	2
152	2	1	1	1	2	2	2	2	2	2	2	2	1	1	1	2	2
153	2	2	1	1	2	2	2	3	2	3	3	3	1	1	1	2	2
154	2	2	2	1	2	2	2	3	2	3	3	3	1	1	1	2	2
155	2	2	2	1	2	2	2	3	2	3	3	3	1	1	2	2	2
156	2	2	2	1	2	2	2	3	3	3	3	3	1	1	1	2	2
157	2	2	2	2	2	2	2	3	3	3	3	3	1	2	1	2	2

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158	2	2	2	2	2	3	2	3	3	3	3	3	1	2	2	2	2
159	2	2	2	2	2	3	2	3	3	3	3	3	2	2	2	2	2
160	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
161	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
162	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
163	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
164	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
165	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
166	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
167	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
168	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
169	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
170	2	2	2	2	3	3	2	3	3	3	3	3	2	2	2	2	2
171	2	2	2	2	3	3	2	2	3	3	3	3	2	2	2	2	2
172	2	2	2	2	3	3	2	2	3	3	3	3	2	2	2	2	2
173	2	2	2	2	3	3	2	2	3	3	3	3	2	2	2	3	2
174	2	3	2	2	3	3	2	2	3	3	3	3	2	2	2	3	2
175	3	3	3	3	3	3	2	2	3	3	3	3	2	2	2	3	3
176	3	3	3	3	3	3	2	2	3	3	3	3	2	2	2	3	3
177	3	3	3	3	3	3	2	2	3	3	3	3	2	2	2	3	3
178	3	3	3	3	3	3	2	2	3	3	3	3	2	2	2	3	3
179	3	3	3	3	3	3	2	2	3	3	3	3	2	2	2	3	3
180	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

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**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 \*\*\*\*\***