

LM-79-08 Test Report

For

LIGHT EFFICIENT DESIGN, LLC**(Brand Name: LIGHT EFFICIENT DESIGN)**

Suite 301, 188 S.Northwest Highway, Cary, IL60013, USA

LED Luminaires

Model name(s): LED-8130M40

Representative (Tested) Model: LED-8130M40

Model Different: N/A

Test & Report By:

Garman Mo

Engineer: Garman Mo

Date: Nov.01,2018

Review By:

John Li

Manager: John-Li

Note: 1.The results contained in this report pertain only to the tested samples.

2.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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1.1 Product Information:

Organization Name	LIGHT EFFICIENT DESIGN, LLC	
Brand Name	LIGHT EFFICIENT DESIGN	
Model Number	LED-8130M40	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Luminaires	
Rated Voltage / Frequency	120-277Vac, 50/60Hz	
Nominal Power	150W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K	
LED Manufacturer	Everlight	
LED Model	67-21S/KK7C-H407034Z15/DT(GC)	
Sample Number	JBE180907-A1	
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	Oct.30,2018
Date of Test	Oct.31,2018
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	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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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 QD25)*

Test date	2018-10-31	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED-8130M40		

Electrical Measurement:

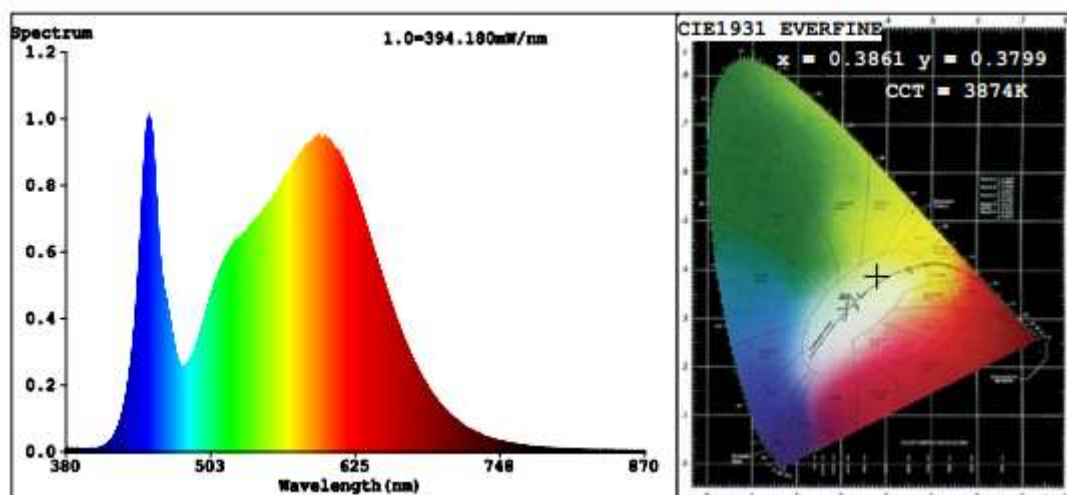
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JBE180907-	120.0	60	1.234	147.2	0.9939	8.63
A1	277.0	60	0.5518	143.9	0.9415	13.90

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	11
Frequency (Hz)	60	R2	89	R10	75
CCT (K)	3874	R3	95	R11	82
Duv	-0.0001	R4	83	R12	64
Chromaticity (x, y)	x=0.3861 y=0.3799	R5	82	R13	84
Chromaticity (u', v')	u'=0.2275 v'=0.5038	R6	85	R14	97
Color Rendering Index (CRI)	83.4	R7	86	R15	76
R9	11	R8	65	--	--

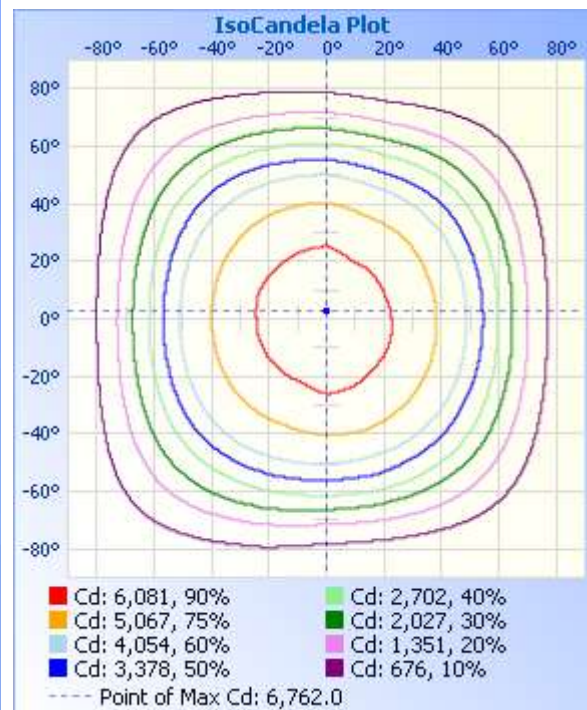
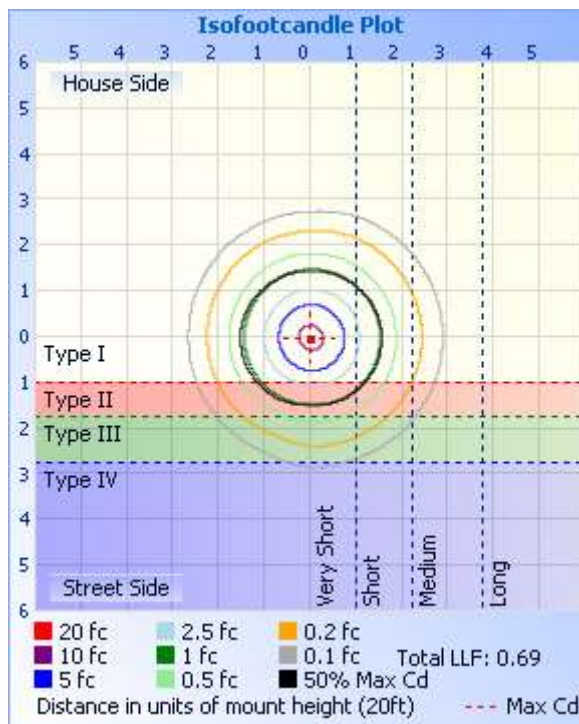
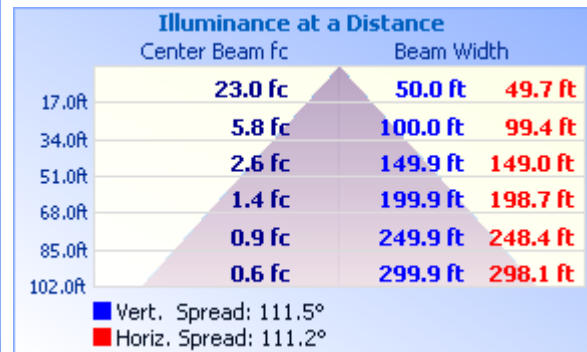
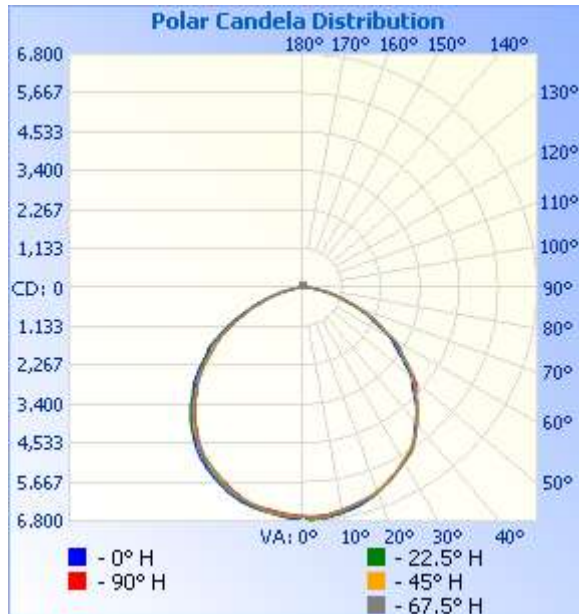
Photometric Measurement – Goniophotometer Method:

Parameter	Result	
Test Voltage (V)	120.0	277.0
Frequency (Hz)	60	60
Total Luminous (lm)	19283	18996
Luminous Efficacy (lm/W)	131.00	132.01
Beam Angle (°)	112.4	--
Center Beam Candle Power (cd)	6655	--

Spectral Power Distribution & Chromaticity Diagram

Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	5,225.4	27.1%
0-40	8,625.5	44.7%
0-60	15,212.9	78.9%
60-90	3,503.1	18.2%
70-100	1,432.1	7.4%
90-120	202.4	1%
0-90	18,716.0	97.1%
90-180	565.4	2.9%
0-180	19,281.5	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	629.9	3.3%	90-100	72.1	0.4%
10-20	1,815.2	9.4%	100-110	63.0	0.3%
20-30	2,780.2	14.4%	110-120	67.3	0.3%
30-40	3,400.1	17.6%	120-130	81.5	0.4%
40-50	3,507.1	18.2%	130-140	90.5	0.5%
50-60	3,080.3	16.0%	140-150	84.3	0.4%
60-70	2,143.2	11.1%	150-160	63.6	0.3%
70-80	1,058.8	5.5%	160-170	34.2	0.2%
80-90	301.2	1.6%	170-180	9.0	0%

Photometric Data


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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	6655	6655	6655	6655	6655	6655	6655	6655	6655	6655	6655	6655	6655	6655	6655	6655	6655
1	6739	6739	6693	6682	6659	6602	6590	6567	6739	6716	6693	6670	6648	6579	6590	6567	6739
2	6762	6751	6705	6682	6670	6590	6590	6567	6739	6716	6670	6659	6625	6579	6590	6567	6762
3	6751	6751	6716	6682	6670	6590	6590	6556	6728	6693	6670	6648	6625	6579	6567	6556	6751
4	6751	6739	6716	6682	6659	6590	6579	6545	6716	6705	6659	6636	6613	6556	6567	6556	6751
5	6739	6739	6716	6693	6659	6567	6556	6533	6693	6682	6648	6625	6590	6533	6556	6556	6739
6	6728	6728	6693	6682	6648	6556	6533	6522	6670	6670	6636	6613	6579	6533	6545	6545	6728
7	6705	6705	6670	6659	6625	6545	6510	6487	6659	6659	6625	6590	6556	6510	6533	6545	6705
8	6693	6693	6648	6625	6602	6510	6499	6476	6636	6625	6613	6590	6545	6487	6510	6522	6693
9	6682	6670	6613	6613	6579	6499	6476	6453	6613	6613	6602	6567	6533	6464	6487	6522	6682
10	6659	6648	6590	6590	6567	6487	6464	6442	6602	6602	6567	6556	6522	6453	6464	6499	6659
11	6625	6613	6556	6556	6545	6464	6442	6419	6590	6579	6567	6545	6522	6442	6442	6464	6625
12	6613	6579	6533	6522	6522	6442	6430	6396	6579	6556	6522	6522	6487	6419	6419	6464	6613
13	6590	6545	6499	6510	6499	6430	6419	6384	6556	6533	6499	6499	6476	6419	6396	6430	6590
14	6567	6522	6476	6487	6476	6396	6396	6362	6533	6510	6464	6464	6442	6384	6373	6396	6567
15	6545	6487	6453	6464	6453	6384	6373	6350	6510	6476	6442	6442	6407	6362	6350	6362	6545
16	6499	6442	6419	6442	6430	6362	6350	6327	6499	6442	6407	6384	6384	6339	6316	6339	6499
17	6464	6419	6384	6430	6419	6339	6327	6304	6453	6419	6373	6350	6316	6293	6293	6293	6464
18	6430	6396	6362	6419	6384	6316	6293	6270	6419	6373	6339	6304	6281	6247	6247	6259	6430
19	6396	6350	6339	6384	6339	6281	6270	6259	6384	6339	6304	6270	6247	6201	6213	6224	6396
20	6339	6304	6304	6350	6304	6259	6236	6224	6362	6304	6247	6236	6190	6167	6190	6178	6339
21	6304	6281	6270	6316	6259	6213	6178	6178	6304	6247	6201	6190	6133	6110	6156	6121	6304
22	6259	6247	6224	6259	6224	6178	6144	6144	6259	6201	6133	6133	6087	6053	6098	6087	6259
23	6213	6201	6167	6213	6178	6133	6110	6098	6213	6167	6075	6075	6053	5995	6041	6030	6213
24	6167	6156	6121	6178	6133	6098	6064	6053	6156	6110	6030	6030	5995	5950	5995	5984	6167
25	6121	6098	6075	6110	6075	6053	6018	6007	6121	6053	5984	5972	5950	5904	5938	5938	6121
26	6064	6053	6030	6064	6041	6007	5984	5950	6064	6007	5915	5915	5904	5835	5870	5892	6064
27	6018	6007	5984	6007	5995	5972	5927	5915	6018	5950	5870	5870	5847	5778	5812	5824	6018
28	5950	5950	5927	5961	5950	5927	5892	5858	5972	5892	5812	5801	5812	5721	5755	5778	5950

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29	5892	5881	5858	5915	5927	5904	5858	5812	5892	5835	5744	5767	5744	5686	5698	5709	5892
30	5847	5847	5812	5881	5881	5847	5801	5767	5847	5767	5686	5709	5698	5618	5629	5675	5847
31	5801	5789	5767	5835	5835	5789	5755	5721	5789	5698	5641	5652	5641	5572	5572	5618	5801
32	5744	5732	5709	5789	5789	5732	5709	5664	5721	5618	5572	5572	5561	5515	5503	5572	5744
33	5698	5686	5664	5755	5732	5652	5629	5595	5652	5549	5515	5503	5492	5446	5446	5503	5698
34	5641	5618	5606	5698	5664	5561	5549	5515	5583	5481	5458	5423	5423	5378	5355	5412	5641
35	5549	5561	5538	5606	5561	5481	5458	5446	5492	5423	5378	5355	5320	5297	5297	5332	5549
36	5469	5492	5492	5526	5492	5412	5378	5343	5423	5332	5320	5263	5229	5206	5240	5252	5469
37	5400	5423	5412	5435	5366	5320	5286	5240	5320	5275	5229	5172	5149	5114	5160	5160	5400
38	5297	5332	5332	5320	5275	5229	5183	5172	5240	5229	5149	5103	5069	5034	5080	5080	5297
39	5206	5240	5263	5240	5194	5160	5114	5080	5160	5160	5057	5011	4989	4966	5023	5000	5206
40	5114	5160	5149	5126	5103	5069	5034	4977	5069	5069	4977	4943	4897	4886	4920	4931	5114
41	5023	5069	5057	5023	5000	4966	4943	4897	4977	4977	4886	4840	4805	4794	4817	4828	5023
42	4920	4954	4977	4943	4943	4886	4874	4805	4863	4874	4783	4725	4702	4702	4725	4748	4920
43	4840	4863	4874	4863	4851	4794	4783	4714	4794	4783	4691	4622	4588	4600	4622	4645	4840
44	4725	4771	4760	4748	4760	4691	4725	4657	4691	4657	4554	4497	4497	4531	4531	4554	4725
45	4600	4680	4680	4657	4691	4622	4634	4565	4565	4519	4428	4382	4371	4405	4416	4439	4600
46	4497	4554	4565	4531	4588	4519	4542	4462	4451	4382	4313	4268	4291	4291	4302	4313	4497
47	4371	4451	4462	4439	4508	4474	4485	4394	4382	4302	4210	4188	4210	4199	4188	4210	4371
48	4268	4348	4382	4371	4462	4405	4428	4313	4279	4210	4119	4119	4108	4085	4062	4108	4268
49	4199	4245	4268	4302	4382	4336	4348	4233	4210	4085	4027	4016	3993	4016	3970	4016	4199
50	4130	4153	4176	4233	4268	4245	4233	4142	4073	3959	3924	3890	3867	3879	3844	3867	4130
51	4039	4039	4085	4142	4142	4073	4050	3982	3947	3844	3799	3753	3741	3753	3730	3719	4039
52	3879	3913	3982	4005	3970	3936	3890	3844	3844	3753	3661	3616	3650	3627	3616	3570	3879
53	3719	3776	3856	3856	3844	3833	3776	3753	3696	3650	3535	3467	3513	3490	3501	3467	3719
54	3616	3650	3707	3753	3696	3719	3650	3638	3570	3535	3398	3341	3398	3364	3398	3375	3616
55	3467	3524	3570	3604	3581	3593	3558	3513	3444	3398	3261	3204	3261	3238	3261	3249	3467
56	3352	3421	3478	3490	3478	3490	3410	3375	3341	3284	3135	3112	3146	3124	3124	3112	3352
57	3215	3318	3364	3375	3387	3352	3318	3272	3307	3238	3089	3032	3043	3078	3021	3021	3215
58	3124	3238	3318	3318	3318	3295	3284	3215	3169	3112	2975	2918	2895	2929	2918	2906	3124
59	3055	3169	3238	3227	3192	3158	3146	3078	3009	2963	2860	2815	2780	2792	2815	2792	3055
60	2940	3009	3055	3078	2998	2975	2975	2940	2838	2803	2677	2632	2632	2609	2677	2609	2940

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61	2838	2838	2906	2929	2860	2838	2780	2757	2712	2632	2540	2483	2471	2471	2506	2483	2838
62	2654	2654	2712	2746	2689	2677	2620	2620	2574	2540	2391	2346	2334	2357	2380	2334	2654
63	2460	2540	2609	2620	2609	2574	2517	2494	2437	2403	2265	2231	2231	2265	2288	2231	2460
64	2346	2448	2460	2494	2460	2471	2403	2357	2288	2185	2071	2082	2094	2140	2140	2128	2346
65	2208	2334	2346	2346	2380	2357	2323	2300	2151	2025	1945	1957	1911	1934	1945	1957	2208
66	2105	2197	2220	2254	2277	2265	2220	2197	2002	1945	1854	1819	1796	1773	1808	1808	2105
67	1991	2048	2059	2094	2140	2117	2094	2071	1876	1842	1796	1762	1693	1682	1716	1705	1991
68	1865	1934	1945	1979	2025	2014	1968	1888	1728	1682	1670	1659	1602	1567	1567	1636	1865
69	1762	1796	1808	1831	1876	1888	1819	1728	1590	1556	1533	1487	1430	1442	1442	1510	1762
70	1648	1613	1716	1728	1751	1773	1705	1648	1487	1430	1373	1327	1293	1316	1316	1350	1648
71	1522	1510	1533	1579	1625	1613	1567	1510	1373	1327	1270	1224	1213	1213	1224	1236	1522
72	1362	1419	1430	1430	1499	1487	1465	1419	1236	1224	1133	1133	1144	1121	1144	1133	1362
73	1270	1339	1327	1350	1373	1384	1339	1304	1121	1076	1018	1007	1007	1018	1041	1007	1270
74	1144	1213	1201	1247	1281	1281	1270	1190	1030	984	927	904	915	927	927	927	1144
75	1053	1121	1121	1156	1201	1178	1121	1098	915	881	847	801	824	847	835	801	1053
76	938	1007	1018	1041	1064	1053	1018	1041	812	789	732	744	721	744	755	755	938
77	824	927	950	950	973	973	915	927	744	686	675	641	641	652	675	675	824
78	767	824	858	847	881	858	847	847	664	595	595	549	538	549	572	584	767
79	686	744	767	778	812	801	755	732	561	538	503	481	481	503	481	492	686
80	618	664	675	675	709	698	675	652	481	458	446	423	435	435	435	435	618
81	515	584	595	606	629	606	606	572	435	400	389	366	366	366	366	389	515
82	446	503	515	538	538	538	515	481	378	332	320	309	286	297	297	320	446
83	400	423	458	481	481	469	458	446	309	286	286	252	252	263	252	275	400
84	343	366	389	400	412	400	378	378	263	229	217	206	195	206	206	229	343
85	297	320	343	366	366	366	343	309	195	183	149	137	137	126	149	172	297
86	240	275	309	297	320	309	297	275	149	114	103	103	103	103	103	114	240
87	183	217	263	275	286	263	252	240	92	103	103	114	103	114	114	114	183
88	149	172	195	217	217	217	195	172	103	103	92	92	92	103	114	103	149
89	92	114	137	149	160	149	137	126	103	80	69	80	80	80	92	103	92
90	92	92	114	114	126	114	103	92	80	57	57	69	69	69	69	80	92
91	92	92	103	92	103	103	92	92	57	46	46	57	69	69	69	69	92
92	69	92	92	92	92	92	92	80	57	46	57	69	69	80	80	69	69

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93	46	57	69	80	80	80	80	57	46	57	46	69	80	80	92	80	46
94	34	46	57	57	69	69	57	46	57	57	57	69	80	80	92	80	34
95	46	46	57	46	57	46	46	57	57	57	69	69	69	80	80	69	46
96	46	46	57	46	57	57	46	57	57	57	57	57	69	69	80	80	46
97	57	57	57	57	57	57	46	57	57	69	57	57	69	69	80	80	57
98	46	57	69	57	57	57	57	57	57	57	57	57	69	69	69	69	46
99	46	57	69	57	69	69	57	57	57	57	57	69	69	69	69	69	46
100	34	46	57	57	69	57	57	57	57	57	57	57	69	57	69	69	34
101	46	46	57	57	69	57	57	57	57	69	69	69	69	57	69	69	46
102	34	46	57	57	57	57	46	57	57	57	69	57	69	69	69	69	34
103	34	46	46	57	57	57	57	69	57	57	57	69	69	69	69	69	34
104	46	46	57	57	46	46	57	57	57	69	57	69	69	57	80	69	46
105	46	46	57	57	57	57	57	69	57	57	69	69	69	69	69	69	46
106	34	46	57	57	57	57	57	57	57	57	69	57	69	69	57	69	34
107	46	57	57	57	57	57	57	57	46	57	69	69	69	69	69	69	46
108	34	46	57	57	69	57	57	69	57	57	69	69	57	69	69	69	34
109	46	46	57	57	69	57	57	57	57	69	57	80	69	69	69	57	46
110	34	57	57	57	69	57	57	57	57	69	69	69	69	69	80	69	34
111	46	34	57	57	57	57	57	57	57	69	69	69	69	80	69	80	46
112	34	46	46	46	69	57	57	57	69	69	80	57	69	69	69	80	34
113	46	46	46	57	69	57	57	57	57	80	69	80	80	92	80	69	46
114	34	57	57	46	57	46	57	57	69	69	80	80	80	92	80	69	34
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116	46	57	57	57	57	57	57	57	69	80	80	80	80	92	92	80	46
117	46	57	57	57	57	69	69	69	80	80	80	80	80	103	92	80	46
118	57	57	57	46	57	80	69	69	80	92	80	92	92	92	92	80	57
119	46	57	57	57	69	69	69	69	80	92	80	80	92	92	103	80	46
120	57	69	57	69	69	69	69	69	92	103	92	92	92	92	92	92	57
121	46	69	57	57	69	69	69	69	80	103	92	92	103	103	92	92	46
122	57	69	69	69	69	69	69	69	92	92	103	92	103	103	103	92	57
123	57	80	57	69	69	80	80	80	103	92	103	92	103	114	103	103	57
124	69	69	69	80	80	80	92	80	92	103	103	103	103	114	114	92	69

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125	69	80	69	69	80	80	80	80	103	103	103	103	114	114	103	103	69
126	69	80	80	69	80	80	80	80	103	114	114	103	114	114	103	103	69
127	80	80	80	80	80	80	92	80	103	103	103	103	114	114	114	114	80
128	69	80	92	80	80	92	92	92	114	114	114	114	114	114	114	114	69
129	80	80	80	80	80	103	92	92	114	114	126	114	126	114	114	126	80
130	80	92	92	80	92	103	103	103	114	114	126	126	114	126	126	126	80
131	80	92	103	92	92	92	103	92	114	126	126	126	126	114	114	126	80
132	92	92	92	92	92	103	103	103	114	114	126	126	126	126	114	137	92
133	92	92	103	103	103	103	114	103	114	114	126	137	126	126	126	137	92
134	92	92	103	92	103	103	114	114	126	126	137	137	126	126	126	149	92
135	80	103	103	92	103	103	114	103	126	126	137	126	137	126	126	149	80
136	103	103	103	103	103	103	114	126	126	126	126	137	137	137	126	137	103
137	103	92	103	114	103	114	114	126	137	126	126	137	137	137	126	137	103
138	103	103	114	114	114	114	114	126	126	137	137	137	137	149	126	137	103
139	114	103	114	126	114	114	114	126	137	126	126	149	137	160	137	137	114
140	103	114	114	126	114	114	126	137	149	137	137	126	137	137	126	149	103
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142	126	126	103	126	126	114	137	126	149	126	149	137	137	149	137	149	126
143	114	126	103	114	126	126	137	137	149	126	149	137	149	114	126	149	114
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145	126	126	114	126	137	126	137	137	160	137	149	149	149	114	126	160	126
146	126	126	137	137	137	137	149	137	149	114	149	137	126	126	114	160	126
147	114	126	126	126	137	137	149	126	149	126	149	137	149	126	126	160	114
148	114	137	126	137	149	137	149	149	149	149	149	149	149	126	137	149	114
149	126	137	137	137	149	149	137	137	149	137	149	160	137	126	126	137	126
150	114	137	126	137	149	149	126	149	149	137	149	149	126	126	149	137	114
151	126	137	126	137	149	160	137	137	149	137	149	149	137	114	149	137	126
152	126	149	126	137	149	160	126	149	149	126	137	137	137	114	149	160	126
153	114	137	126	137	149	160	137	137	160	126	137	149	137	126	137	149	114
154	126	137	114	137	149	160	149	149	149	114	137	160	137	126	149	149	126
155	137	137	114	149	149	160	149	137	126	114	137	137	149	126	126	160	137
156	126	149	126	149	160	160	149	137	126	114	160	114	149	126	114	149	126

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157	126	137	126	149	149	149	149	137	126	114	149	126	149	114	114	137	126
158	126	137	126	137	160	149	149	137	126	114	126	126	126	137	114	149	126
159	137	149	137	137	160	149	149	149	126	126	126	114	126	137	114	149	137
160	137	149	126	137	160	126	149	137	103	137	137	114	114	149	114	126	137
161	137	137	114	137	160	126	149	137	103	126	137	114	103	126	114	126	137
162	114	137	114	137	149	149	149	126	114	126	137	114	92	103	114	137	114
163	114	126	114	137	149	137	149	126	114	126	137	114	103	114	126	126	114
164	103	114	126	126	137	137	137	137	114	103	126	103	114	103	114	126	103
165	103	114	126	114	126	126	126	137	126	114	114	103	103	92	114	137	103
166	103	126	126	114	126	137	114	137	126	126	126	114	114	114	103	137	103
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168	114	103	92	103	114	126	114	126	92	114	103	92	126	114	103	114	114
169	103	114	92	103	126	137	114	126	92	114	92	103	114	103	103	114	103
170	103	103	114	114	114	126	126	114	103	80	103	80	92	103	126	126	103
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173	80	92	92	92	114	114	137	114	80	57	80	69	103	103	114	80	80
174	80	92	92	103	114	126	114	114	80	69	46	69	69	92	92	80	80
175	80	103	80	103	103	114	114	103	69	57	46	57	57	80	80	69	80
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177	80	80	80	92	114	103	92	103	57	57	46	46	57	57	69	69	80
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179	57	69	80	80	92	92	92	80	46	57	69	69	103	103	103	114	57
180	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74

3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-331	2 meter Integrating Sphere	2018-07-02	2019-07-01
ST-R-327	Spectral analysis system HAAS-2000	2018-07-02	2019-07-01
ST-R-332	Standard Lamp	2018-07-04	2019-07-03
ST-R-333	Power Meter for Integrating Sphere	2018-06-28	2019-06-27
ST-R-355	Goniophotometer system	2018-07-01	2019-06-30
ST-R-359	Standard Lamp	2018-07-04	2019-07-03
ST-R-358	Power Meter for Goniophotometer	2018-06-28	2019-06-27
Expand Uncertainty: Photometric Measurement (Sphere):2.04%, k=2 Chromaticity Measurement(Sphere):28.8K, k=2 Photometric Measurement(Goniophotometer):2.36%, k=2			

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