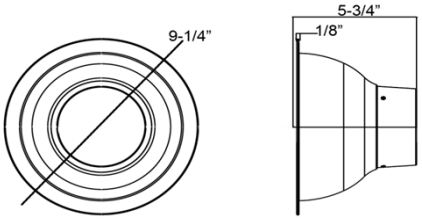
Catalog Number	72662
UPC Number	60198672662
Description	8" Recessed Downlight 25 Watt

Features

- Phillips LUMILED LUXEON 3030 LED's
- Can be installed in most 8" Downlights
- Aluminum Housing/Trim - paintable
- 15" Greenfield Wire Whips to driver and line side with box connector included
- Guaranteed Single Bin Color Consistency with enhanced illumination uniformity
- 90^{O} Beam Angle
- Dimmable Down to 10%
- 50,000+ Hour LED Life Expectancy
- Compatible with most dimmers
- Input Voltage: 102-277VAC
- Damp Location Rated
- 5 Year Warranty



General

Lumen Output:	1700
Color Temperature:	4000K
CRI:	80
Light Pattern:	90^{o} Beam Spread
Operation Temperature:	-4^{o}F to 104^{o}F
Housing:	Aluminum

Dimension Information

Diameter:	9-1/4"
Depth:	5-3/4"

Specifications

Voltage:	120-277
Input Current:	0.9 Amps
Power Consumption:	25 Watts

Certifications

cULus:	Yes
Energy Star:	Yes

Packaging

Box Qty	1
Master Box Qty	2

LCTECH

NVLAP LAB CODE 500080-0

IESNA SUSTAINING MEMBER

Ref. No.: LCZP16030156
Version: 1.0
Date of issue: Mar. 23, 2016
Total pages: 14

Test report of

IES LM-79-08

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Rendered to:

Morris Products Inc.
53 Carey Road
Queensbury NY, 12804

For products:

Commercial downlight

Models No.:
72662

Test Date:	Mar. 19, 2016
Test Item:	Total luminous flux, Luminous Efficacy, Electrical values, Luminous Intensity Distribution, Chromaticity coordinates, CCT and CRI, Spectral Power Distribution.
Test Lab.:	LCTECH (Zhongshan) Testing Service Co., Ltd 2/F., Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China Tel:+86-760-22833366 Fax:+86-760-22833399 E-mail:Service@lccert.com http://www.lccert.com
Template No.:	LC-RT-PL/LM79-08/01
Test Note:	

Complied by:	Reviewed by:
Thomas Liu	Richard Li
Project Engineer	Technical Manager
Mar. 23, 2016	Mar. 23, 2016

Table of Contents

1. General

1.1 Product Information

Brand Name	Morris
Trade Mark	-
Product Type	Commercial downlight
Model Number	72662
Rated Inputs	100-277V / 60Hz
Rated Power	25W
Rated Light output	N/A
Declared CCT	4000K
Power Supply	DIM4OWA12S-560
LED Package, Array or Module	N/A
Receipt Samples	1 unit
Date of Receipt Samples	Mar. 18, 2016
Note	-

1.2 Standards or methods

The following standards are partly or totally used or referenced for test:

No.	Name
ANSI/NEMA/ ANSLG C78.377-2011	Specifications for the Chromaticity of Solid State Lighting Products
ANSI C82.77-2002	Harmonic Emission Limits —Related Power Quality Requirements for Lighting Equipment
CIE Pub. No. 13.3-1995	Method of Measuring and Specifying Color Rendering of Light Sources
CIE Pub. No. 15:2004	Colorimetry
IES LM-79-08	Electrical and Photometric Measurements of Solid-State Lighting Products

1.3 Equipment list

Instrument	ID	Model name	Cal. date	Next cal. Date
AC Power supply	LC-I-923	CHP-500	2016-02-04	2017-02-03
AC Power supply	LC-I-987	APW-110N	2016-02-04	2017-02-03
Power analyzer	LC-I-928	WT210	2016-01-24	2017-01-24
Power analyzer	LC-I-954	WT210	2016-02-04	2017-02-03
Multimeter	LC-I-972	Fluke 17B	2015-08-17	2016-08-16
Photometric colorimetric electric system (2 meter sphere)	LC-I-900	SPR3000	Before use	Before use
Standard lamp	LC-I-917	24V100W	2015-10-09	2016-10-08
Luminous Flux Standard Lamp	LC-I-946	110V/200W	2015-10-17	2016-10-16
Goniophotometer(with mirror)	LC-I-902	GMS2000	2015-05-07	2016-05-07
Wireless temperature transmitter	LC-I-978	DWRF-B	2016-02-03	2017-02-02
Wireless temperature transmitter	LC-I-979	DWRF-B	2016-02-03	2017-02-02

2. Test conducted and method

The luminaire was operated at least 2 hours to reach stabilization and temperature equilibrium before test.

2.1 Ambient Condition

The ambient temperature in which measurements are being taken was maintained at 25° C± 1° C; the air flow around the sample(s) being tested did not affect the performance.

2.2 Power Supply Characteristics

The AC power supply had a sinusoidal voltage wave shape at the prescribed frequency (60 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

The voltage of AC power supply (RMS voltage) applied to the device under test was regulated to within±0.2 percent under load.

2.3 Seasoning and Stabilization

No seasoning was performed in accordance with IESNA LM-79-08. And before the measurement, the sample was stabilized until the light output and power variations were less than 0.5% in 30 minutes intervals (3 readings, 15 minutes apart).

2.4 Electrical Instrumentation

The calibration uncertainties of the instruments for AC voltage and current were less than 0.2 percent, and the calibration uncertainty of the AC power meter was less than 0.5 percent(95 % confidence interval, k=2).

2.5 Color Measurement Method

Spectral radiant flux was measured by a sphere (2 meter)-spectroradiometer system, and the color characteristics (Color rendering index, correlated color temperature, chromaticity coordinate) were calculated from these by software automatically.

2.6 Total Luminous Flux Measurement Method

Total luminous flux was measured by both sphere-spectroradiometer system and type C goniophotometer system.

Light intensity distribution was measured by a type C goniophotometer (with mirror) which can keep the sample in burn position when the tests conduct, and the total luminous flux was calculated from the intensity data by software automatically.

Spectral radiant flux was measured by a sphere (2 meter)-spectroradiometer system, and the total luminous flux was calculated from these by software automatically.

2.7 Luminous Intensity Distribution Measurement Method

Luminous intensity distribution was measured by a mirror-type goniophotometer (Type C) which can keep the sample in burn position when the tests conduct, and the kinds of graph were generated by software automatically.

2.8 Spatial Non-uniformity of Chromaticity

The customer did not require this measurement.

3. Test Result Summary

3.1 Electrical data

Criteria Item	Result(Sphere)	Result(Goniophotometer)
Input Voltage & Frequency	120.04 V~60Hz	120.04 V~60Hz
Input Current(A)	0.211	0.211
Total Power(W)	25.2	25.31
Power Factor	0.997	0.999
I-THD	3.86%	-
Off-state Power(W)	-	-

3.2 Photometric data

Criteria Item	Result(Sphere)	Result(Goniophotometer)
Total Lumens(lm)	-	2565.24
Luminaire Efficacy(Lm/W)	-	101.35
Correlated Color Temperature (CCT)(K)	3971	-
Color Rendering Index (CRI)	84.5	-
R9	16	-
Chromaticity Coordinate (x,y)	x=0.3814 y=0.3763	-
Chromaticity Coordinate (u,v)	u=0.2259 v=0.3343	-
Chromaticity Coordinate (u',v')	u'=0.2259 v'=0.5015	-
Duv	-0.0005	-
Spacing Criteria(0-180°)	-	1.06
Spacing Criteria(90-270°)	-	1.06
Zone Lumens between 0-60°	-	96.49%

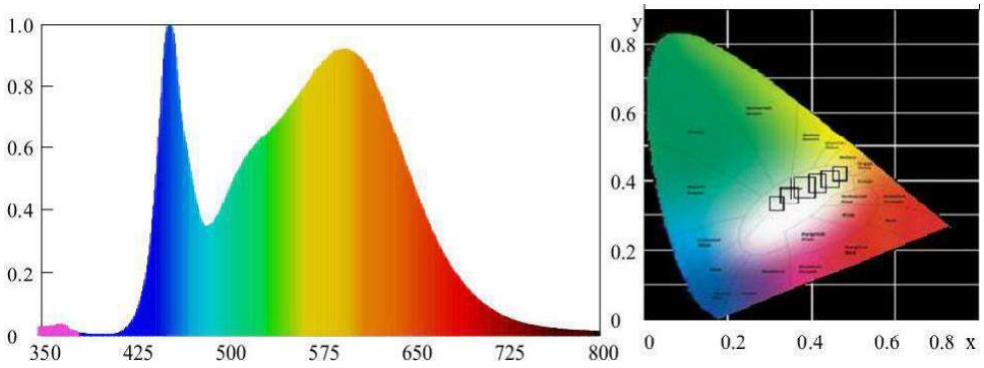
3.3 Color Rendering Details

R1	R2	R3	R4	R5	R6	R7	R8
84	93	96	81	83	89	85	65
R9	R10	R11	R12	R13	R14	R15	-
16	82	80	63	87	98	78	-

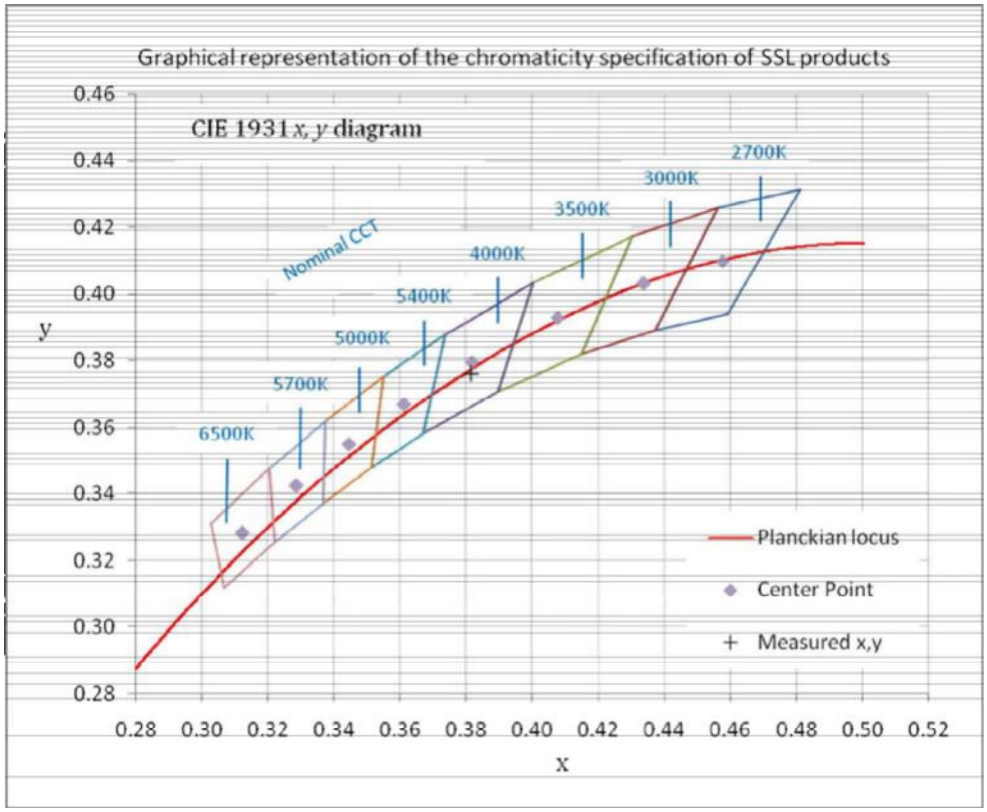
Note: N.A.

4. Test Data

4.1 Spectral Distribution



4.2 ANSI Chromaticity Quadrangles Diagram



4.3 Goniometry Test Data

CIE Type	Direct lighting	Basic Luminous Shape	Circular
Spacing Criteria (0-180)	1.06	Luminous Length	0 mm
Spacing Criteria (90-270)	1.06	Luminous Width	0 mm
Spacing Criteria (Diagonal)	1.12	Luminous diameter	198 mm
Test Distance	29.64m	Luminous Height	0 m

4.4 Zonal Lumen Summary

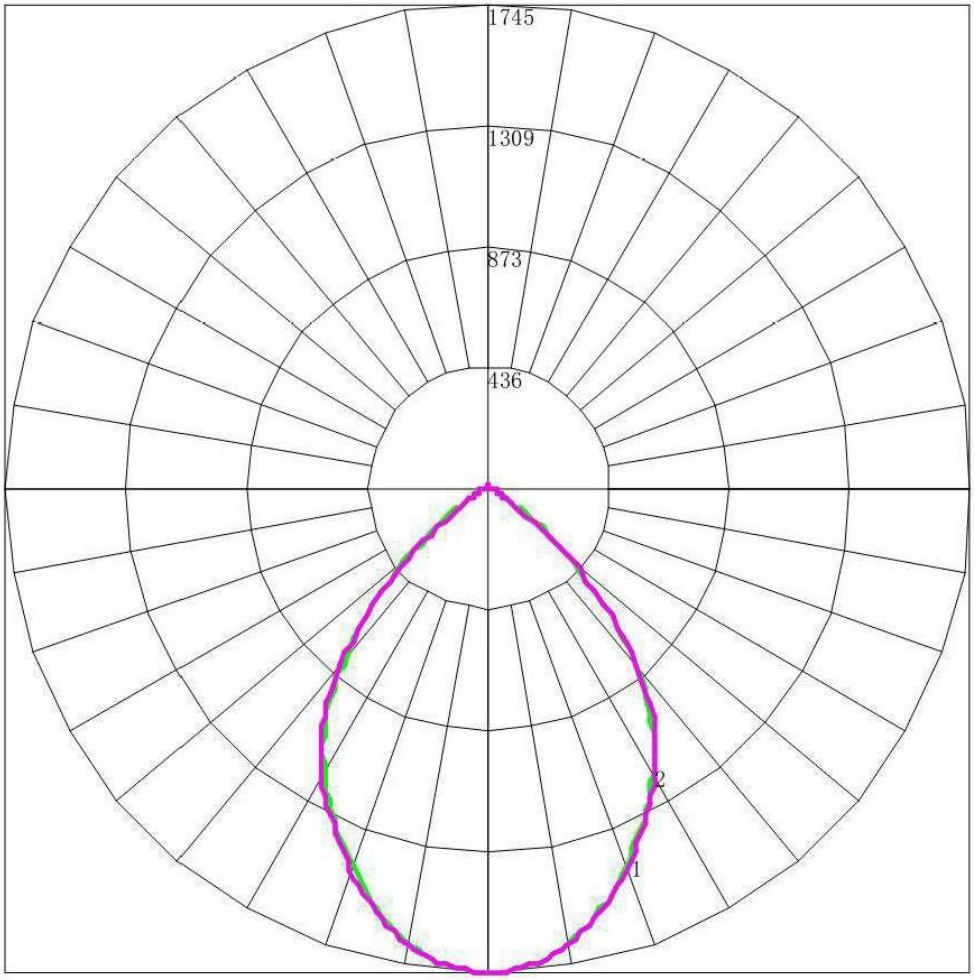
Zone	Lumens	%Lamp	%Fixt
0-20	604.66	23.60	23.60
0-30	1215.65	47.40	47.40
0-40	1857.51	72.40	72.40
0-60	2475.7	96.50	96.50
0-80	2554.51	99.60	99.60
0-90	2559.86	99.80	99.80
10-90	2396.61	93.40	93.40
20-40	1252.86	48.80	48.80
20-50	1702.78	66.40	66.40
40-70	674.05	26.30	26.30
60-80	78.81	3.10	3.10
70-80	22.94	0.90	0.90
80-90	5.35	0.20	0.20
90-110	0.24	0.00	0.00
90-120	0.42	0.00	0.00
90-130	0.75	0.00	0.00
90-150	2.18	0.10	0.10
90-180	5.91	0.20	0.20
110-180	5.67	0.20	0.20
0-180	2565.77	100.00	100.00

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	163.25
10-20	441.41
20-30	610.99
30-40	641.87
40-50	449.93
50-60	168.26
60-70	55.86
70-80	22.94
80-90	5.35
90-100	0.13
100-110	0.11
110-120	0.18
120-130	0.33
130-140	0.46
140-150	0.97
150-160	1.48
160-170	1.57
170-180	0.67

4.5 Polar Curves



Maximum Candela= 1745.111 Located At Horizontal Angle= 0, Vertical Angle= 0
1-Vertical Plane Through Horizontal Angles (0- 180)
2- Vertical Plane Through Horizontal Angles (90- 270)

4.6 Candela Tabulation

	Q	15	30	45	60	75	90
0	1745.111	1745.111	1745.111	1745.111	1745.111	1745.111	1745.111
1	1742.958	1743.419	1743.507	1743.683	1744.101	1743.596	1743.576
2	1741.244	1740.629	1741.046	1741.771	1741.421	1741.400	1741.296
3	1737.421	1737.201	1737.333	1737.948	1737.556	1737.602	1737.392
4	1729.952	1731.686	1731.181	1732.038	1731.781	1731.939	1731.384
5	1724.635	1724.391	1724.480	1725.072	1724.599	1725.682	1726.297
6	1714.309	1714.239	1715.163	1715.229	1715.660	1716.528	1716.692
7	1704.423	1704.549	1705..232	1705.935	1706.283	1706.648	1706.474
8	1691.592	1692.223	1692.906	1694.356	1695.038	1695.694	1695.598
9	1677.751	1720.866	1720.777	1717.359	1713.165	1707.809	1681.169
10	1662.987	1663.680	1663.860	1666.848	1666.115	1668.691	1668.407
11	1646.949	1647.091	1648.370	1650.194	1651.599	1652.819	1651.040
12	1630.296	1627.997	1631..298	1632.660	1634.117	1635.520	1634.901
13	1611.490	1611.407	1611.831	1614.644	1615.340	1617.211	1615.473
14	1590.443	1590.139	1592.035	1595.200	1595.377	1596.553	1596.484
15	1570.011	1569.396	1572.173	1572.063	1574.317	1575.785	1574.468
16	1545.624	1548.588	1548.817	1551.453	1553.101	1553.941	1553.987
17	1523.698	1524.462	1525.198	1527.504	1529.494	1529.859	1531.840
18	1499.795	1500.094	1503..248	1504.742	1507.662	1509.135	1508.377
19	1474.750	1475.551	1477.453	1480.552	1482.099	1482.264	1484.432
20	1450.759	1449.930	1453.087	1455.943	1457.435	1460.069	1459.697
21	1424.878	1425.739	1427.600	1430.149	1432.927	1433.527	1432.112
22	1400.447	1399.898	1400.707	1405.606	1407.209	1409.291	1408.868
23	1374.699	1375.751	1377.746	1380.580	1382.194	1384.264	1382.686
24	1346.401	1349.075	1349.930	1354.631	1356.192	1358.908	1359.180
25	1324.344	1323.720	1327..233	1328.903	1330.760	1333.464	1332.954
26	1295.563	1298.231	1299.594	1303.788	1306.251	1309.513	1309.754
27	1269.156	1272.831	1273.864	1277.795	1279.655	1284.859	1283.265
28	1244.637	1244.640	1247.476	1252.045	1255.321	1258.230	1258.706
29	1217.175	1218.075	1219.969	1224.999	1227.453	1229.361	1232.875
30	1187.735	1191.532	1192.481	1197.512	1201.580	1204.115	1204.807
31	1160.141	1159.912	1163..282	1166.750	1169.230	1172.260	1175.117
32	1130.701	1130.119	1134.323	1138.276	1142.020	1144.467	1145.602
33	1098.406	1099.488	1102..201	1106.264	1109.802	1111.471	1111.087
34	1065.319	1064.946	1065.991	1072.976	1075.717	1079.354	1080.958
35	1031.002	1031.791	1032.968	1036.988	1040.885	1042.165	1043.769
36	994.093	993.206	998.825	1000.074	1004.781	1007.500	1009.035
37	955.294	956.161	956.792	960.988	964.678	968.928	967.591
38	911.310	911.776	915.641	919.812	923.415	927.942	929.130
39	871.237	871.984	872.246	876.088	877.975	882.585	881.897
40	823.782	825.622	827.909	833.135	834.471	838.635	839.883
41	780.370	780.687	782.537	785.765	786.946	790.272	791.335
42	729.224	729.579	732.968	733.516	739.837	739.098	741.690
43	684.142	684.381	683.798	687.571	687.570	688.342	690.378
44	635.501	637.317	633.920	637.501	638.506	638.839	639.462
45	586.156	584.449	586.617	585.712	589.973	584.065	587.975
46	533.472	535.076	533.314	535.488	535.659	537.063	536.752
47	485.271	489.330	488.953	486.602	486.706	487.207	483.949
48	446.340	440.748	443.341	441.208	440.458	439.393	439.435
49	398.138	397.638	394.937	393.685	392.712	393.160	389.615
50	352.133	352.835	352.072	350.245	350.438	348.858	348.785
51	314.521	311.990	312.303	308.853	305.593	305.128	303.175
52	275.986	274.701	275.216	270.335	269.862	267.609	267.038
53	239.647	239.041	237.819	233.952	231.430	228.752	227.787
54	207.308	208.170	205.301	204.247	201.387	197.139	197.176

4.7 Candela Tabulation

55	182.042	181.143	178.321	175.992	172.155	168.645	169.722
56	155.942	157.149	153.186	149.714	147.890	143.332	142.488
57	136.741	135.747	133.565	130.204	127.202	122.346	123.323
58	119.340	116.543	115.725	112.694	109.853	107.001	105.210
59	103.742	103.074	101.180	97.709	96.083	92.643	91.396
60	92.186	90.528	89.403	87.580	84.927	83.269	82.624
61	82.079	81.299	80.241	77.913	76.626	74.773	74.423
62	73.599	73.279	72.046	70.706	69.093	68.078	67.845
63	67.491	66.754	66.157	64.796	63.427	62.919	62.495
64	62.043	61.700	60.972	59.787	58.750	57.760	57.714
65	56.682	56.800	55.875	54.887	53.545	52.886	52.627
66	52.288	51.944	51.304	50.493	49.372	48.583	48.417
67	47.982	47.725	46.800	46.274	44.914	44.303	44.163
68	43.720	43.594	42.955	42.034	41.378	40.483	40.304
69	40.073	39.881	39.264	38.518	37.535	36.773	36.620
70	36.250	36.233	35.727	35.047	34.219	33.523	33.067
71	33.175	33.025	32.541	31.883	31.166	30.450	30.085
72	30.055	29.971	29.487	29.070	28.289	27.728	27.410
73	27.155	26.983	26.806	26.126	25.478	24.984	24.515
74	24.431	24.368	24.016	23.555	22.952	22.613	22.191
75	21.882	21.951	21.709	21.248	20.558	20.351	19.779
76	19.377	19.380	19.248	18.919	18.494	18.266	17.805
77	17.224	17.205	17.182	16.810	16.539	16.246	15.788
78	15.247	15.206	15.117	14.986	14.672	14.380	13.946
79	13.358	13.360	13.249	13.118	12.805	12.602	12.411
80	11.512	11.536	11.601	11.492	11.246	11.109	10.745
81	9.880	9.932	9.888	9.800	9.790	9.550	9.297
82	8.261	8.306	8.350	8.394	8.303	8.211	7.850
83	6.811	6.878	6.943	6.966	6.985	6.872	6.535
84	5.405	5.581	5.581	5.691	5.667	5.620	5.307
85	4.042	4.197	4.307	4.395	4.349	4.545	4.035
86	2.944	3.054	3.142	3.230	3.339	3.337	2.982
87	2.109	2.022	2.109	2.176	2.285	2.327	2.017
88	1.494	1.604	1.582	2.153	1.538	1.427	0.965
89	1.098	1.560	1.143	1.736	2.021	1.164	0.724
90	1.230	0.989	0.681	0.681	0.967	0.461	0.175
91	0.615	0.484	0.330	0.220	0.154	0.066	0.088
92	0.132	0.066	0.066	0.044	0.044	0.088	0.088
93	0.088	0.088	0.022	0.088	0.044	0.044	0.066
94	0.044	0.044	0.044	0.088	0.044	0.044	0.000
95	0.088	0.044	0.066	0.088	0.044	0.066	0.044
96	0.044	0.088	0.044	0.044	0.044	0.088	0.066
97	0.044	0.066	0.044	0.088	0.044	0.044	0.000
98	0.132	0.088	0.066	0.044	0.110	0.088	0.044
99	0.044	0.110	0.132	0.044	0.044	0.044	0.044
100	0.000	0.066	0.110	0.088	0.066	0.066	0.132
101	0.088	0.110	0.132	0.044	0.088	0.066	0.088
102	0.044	0.066	0.088	0.110	0.088	0.044	0.044
103	0.176	0.088	0.110	0.110	0.088	0.066	0.044
104	0.088	0.110	0.132	0.110	0.066	0.066	0.088
105	0.088	0.132	0.132	0.066	0.110	0.132	0.088
106	0.088	0.110	0.132	0.110	0.132	0.132	0.088
107	0.044	0.176	0.154	0.110	0.132	0.088	0.132
108	0.088	0.132	0.154	0.110	0.110	0.110	0.044
109	0.176	0.132	0.154	0.110	0.110	0.132	0.132
110	0.132	0.176	0.154	0.132	0.110	0.110	0.175
111	0.176	0.154	0.176	0.176	0.154	0.132	0.175

4.8 Candela Tabulation

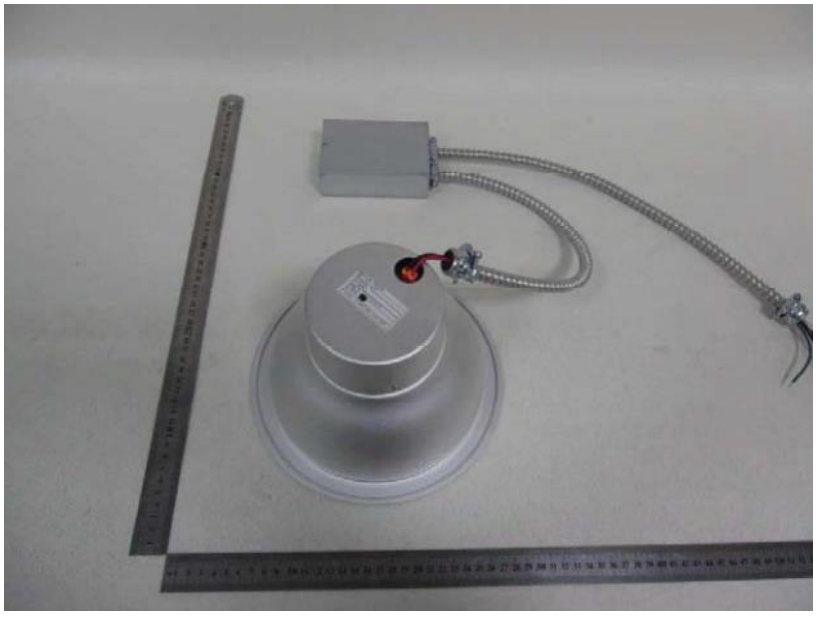
112	0.176	0.154	0.132	0.176	0.154	0.132	0.132
113	0.132	0.198	0.132	0.176	0.154	0.154	0.132
114	0.220	0.154	0.176	0.176	0.220	0.132	0.088
115	0.220	0.198	0.176	0.176	0.176	0.154	0.132
116	0.176	0.176	0.198	0.176	0.176	0.176	0.132
117	0.220	0.220	0.198	0.242	0.176	0.198	0.219
118	0.220	0.242	0.220	0.220	0.242	0.198	0.219
119	0.264	0.264	0.242	0.220	0.176	0.241	0.175
120	0.220	0.286	0.264	0.264	0.264	0.220	0.175
121	0.308	0.264	0.220	0.242	0.198	0.241	0.175
122	0.308	0.308	0.220	0.286	0.242	0.263	0.263
123	0.220	0.308	0.330	0.308	0.307	0.307	0.219
124	0.352	0.352	0.352	0.330	0.329	0.307	0.351
125	0.352	0.330	0.374	0.396	0.395	0.373	0.395
126	0.439	0.396	0.374	0.374	0.395	0.373	0.351
127	0.483	0.461	0.461	0.417	0.439	0.417	0.439
128	0.483	0.505	0.483	0.461	0.483	0.505	0.439
129	0.571	0.505	0.483	0.483	0.505	0.505	0.526
130	0.483	0.549	0.549	0.505	0.571	0.549	0.570
131	0.527	0.571	0.483	0.615	0.505	0.549	0.526
132	0.527	0.571	0.571	0.571	0.571	0.549	0.482
133	0.527	0.527	0.549	0.527	0.593	0.571	0.526
134	0.571	0.549	0.549	0.549	0.527	0.549	0.526
135	0.483	0.549	0.549	0.549	0.549	0.549	0.526
136	0.571	0.549	0.549	0.593	0.549	0.549	0.570
137	0.615	0.637	0.615	0.593	0.615	0.571	0.614
138	0.659	0.681	0.659	0.615	0.615	0.637	0.614
139	0.615	0.725	0.725	0.703	0.725	0.703	0.658
140	0.923	0.901	0.901	0.967	0.966	0.944	0.921
141	1.011	1.077	1.033	1.033	1.076	1.098	1.053
142	1.230	1.143	1.186	1.186	1.164	1.207	1.184
143	1.318	1.296	1.274	1.252	1.318	1.317	1.272
144	1.450	1.384	1.494	1.406	1.515	1.449	1.447
145	1.582	1.538	1.516	1.560	1.603	1.537	1.535
146	1.626	1.604	1.626	1.582	1.691	1.625	1.710
147	1.802	1.780	1.780	1.780	1.823	1.822	1.842
148	2.021	1.978	1.890	1.955	1.977	2.042	1.930
149	2.153	2.153	2.131	2.175	2.130	2.217	2.193
150	2.285	2.307	2.329	2.307	2.284	2.305	2.368
151	2.505	2.483	2.483	2.505	2.504	2.503	2.544
152	2.636	2.703	2.681	2.746	2.723	2.678	2.807
153	2.724	2.856	2.790	2.790	2.811	2.810	2.807
154	2.900	2.944	2.922	2.966	2.921	2.964	2.982
155	3.208	3.164	3.142	3.120	3.162	3.117	3.158
156	3.427	3.362	3.384	3.384	3.448	3.403	3.465
157	3.603	3.647	3.647	3.625	3.602	3.644	3.684
158	3.867	3.911	3.933	3.867	3.887	3.908	3.991
159	4.130	4.197	4.219	4.153	4.173	4.193	4.254
160	4.482	4.482	4.438	4.482	4.458	4.457	4.473
161	4.789	4.812	4.790	4.768	4.766	4.786	4.780
162	5.053	5.010	5.010	5.031	4.985	5.005	4.956
163	5.229	5.251	5.229	5.317	5.249	5.291	5.263
164	5.449	5.493	5.471	5.515	5.512	5.466	5.570
165	5.756	5.713	5.735	5.713	5.688	5.686	5.701
166	5.932	5.955	5.910	5.910	5.886	5.905	5.964
167	6.064	6.108	6.086	6.064	6.061	6.103	6.096
168	6.327	6.284	6.240	6.262	6.281	6.235	6.228

4.9 Candela Tabulation

169	6.459	6.416	6.438	6.372	6.435	6.410	6.447
170	6.591	6.636	6.591	6.569	6.566	6.564	6.535
171	6.811	6.768	6.767	6.723	6.764	6.740	6.754
172	6.942	6.877	6.921	6.943	6.852	6.915	6.885
173	7.030	7.053	7.009	7.053	7.028	7.047	7.105
174	7.118	7.163	7.141	7.119	7.159	7.135	7.105
175	7.250	7.273	7.251	7.273	7.269	7.245	7.192
176	7.382	7.383	7.404	7.382	7.379	7.332	7.324
177	7.470	7.493	7.426	7.470	7.467	7.442	7.455
178	7.558	7.515	7.492	7.558	7.511	7.508	7.543
179	7.514	7.537	7.536	7.514	7.511	7.508	7.587
180	7.517	7.517	7.517	7.517	7.517	7.517	7.517

Appendix 1 Product Photo

Picture 1



Picture 2

****End of test report****