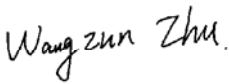
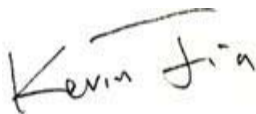


Test Report

Company & Address			
Company Name	Espen Technology, Inc.		
Address	12257 FLORENCE AVE SANTA FE SPRINGS, CA 90670 USA		
Contact	Maofu Miao		
Telephone	+86-21-33507615x8009	Fax/ E-mail Address	maofu@espentech. com
Manufacturer	Espen Technology, Inc.		
Contry of Origin	China		
Contry of Export	USA, Canada		
Product Description	Lamp type: Four-Foot Linear Replacement Lamps - 2-lamp External Driver Lamp-Style Retrofit Kits (UL Type C) Total Amount of Light Source: 120pcs Manufacturer of Light Source: EVERLIGHT ELECTRONICS CO., LTD Model Number of Light Source: 67-21S Series		
LED Driver Model No.	VPL50-xxx-MVHDA-PD-2C		
LED Driver Manufacturer	Espen Technology, Inc.		
Lamp Model Number	L48T5/840/24G-XT H		
Electrical Specification	Rated Voltage: 120-277Vac Frequency: 60 Hz Wattage: 23W Nominal CCT: 4000K		
Test Laboratory & Address			
Test Laboratory	Deliver Co., Ltd.		
Address	Block 11, 78 Keling Road, SSTP, Suzhou, China, 215000		

Telephone	0512-6680 1969	Fax	0512-6680 1916
Receipt Date of	2016/8/21	Test Period	See individual test page
Test by	Approved by		
 /Wangzun Zhu		 /Kevin Jia	
Test Personnel Name & Signatory		Approved Name & Signatory	

Test Results

Statement of Results

Test No.	Test Method	Sample No.	Sample Serial No.	Result (Pass/Fail/NA)
1	Integrating Sphere	B2	DLF1608105	Evaluated by Customer
2	Goniophotometer	B2	DLF1608105	Evaluated by Customer
3	Total Harmonic Distortion Test-120V	B2	DLF1608105	Evaluated by Customer
4	Total Harmonic Distortion Test-277V	B2	DLF1608105	Evaluated by Customer

Deviation from Test Method (if any)

N/A

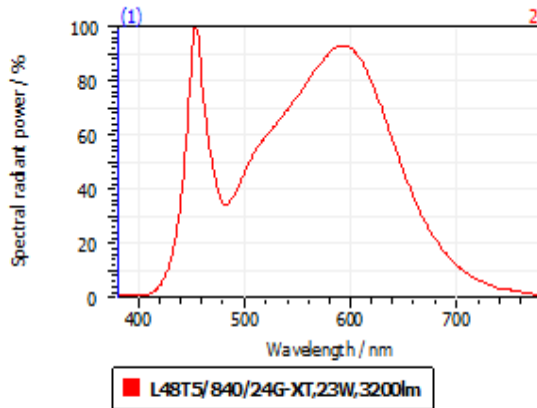
Remark (if any)

This report shall not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the US government.

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.

Test Report								
Test No.1: Integrating Sphere Test								
Environmental Conditions								
Temperature (°C)	24.6	Relative Humidity (%)	51					
Test Equipment								
Equipment ID	Equipment Name	Date	Calibration Due Date					
DLF107	Integrating Sphere System	2016/1/5	2017/1/4					
DLF108	Auxiliary Lamp	2016/1/5	2017/1/4					
DLF122	Measurement Standard Lamp	2016/1/5	2017/1/4					
	Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-directional							
DLF116	AC Power Source	2016/1/5	2017/1/4					
DLF113	Power Meter	2016/1/5	2017/1/4					
DLF112	Temperature Recorder	2016/1/5	2017/1/4					
DLF114	Temperature & Humidity Datalogger	2016/1/5	2017/1/4					
Test Sample	B2							
Test Date	2016/8/25							
Test Method								
The samples were tested according to the IES LM-79-2008. Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25° C ± 1° 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 voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load. The sample was measured using 4π geometry and operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.								
Test Results								
Test Type	Voltage (V AC)	Frequency (Hz)	Current* (A)	Power* (W)	Power Factor	Orientation	Operate time (Min.)	Stabilization time (Min.)
Input	119.99	60	0.229	27.25	0.994	Light Down	45	30
Test Type	CCT (K)	Color Rendering Index Ra	R9	Luminous Flux (lm)	DUV	Luminous Efficacy (lm/W)		
Output	4063	83.8	10.7	3352.1	3.20E-04	123.0		
* Note: Test was conducted with one LED driver operating two LED tube lamps. One of the LED tube lamps was installed in integrating sphere and measured for photometric data. Wattage and current was assigned to be one quarter of the totally system wattage/current.								

Spectroradiometric Parameters



Spectral values

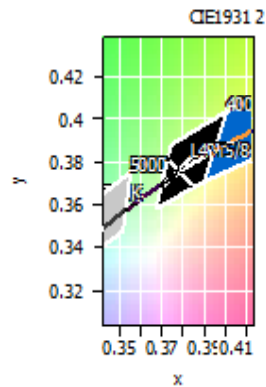
Luminous Flux	3.352 klm
DominantWavelength	578.65 nm
Purity	0.262
PeakWavelength	454.00 nm
Radiant Power	10.26 W
Width50%:	26.17 nm

Color Coordinates

Correlated Color Temperatun 4063 K

x: 0.3779 u: 0.2238 u': 0.2238
y: 0.3759 v: 0.3339 v': 0.5008

ResultsCRICRI01	82.0	ResultsCRICRI09	10.7
ResultsCRICRI02	91.1	ResultsCRICRI10	78.1
ResultsCRICRI03	96.2	ResultsCRICRI11	79.8
ResultsCRICRI04	81.3	ResultsCRICRI12	62.8
ResultsCRICRI05	82.1	ResultsCRICRI13	84.5
ResultsCRICRI06	86.9	ResultsCRICRI14	98.3
ResultsCRICRI07	85.7	ResultsCRICRI15	76.1
ResultsCRICRI08	64.9	ResultsCRICRI16	72.9
ResultsCRI	83.8		



Nominal CCT 4000K

PlanckDistance 3.2E-004

Test Report

Test No.2: Goniophotometer Test

Environmental Conditions

Temperature (°C)	25.0	Relative Humidity (%)	45
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Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF101	Goniophotometer	2016/1/5	2017/1/4
DLF125	Standard Lamp	2016/1/5	2017/1/4
	Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-directional		
DLF104	AC Power Source	2016/1/5	2017/1/4
DLF507	DC Power Source	2016/1/5	2017/1/4
DLF102	Power Meter	2016/1/5	2017/1/4
DLF111	Temperature & Humidity Datalogger	2016/1/5	2017/1/4

Test Sample	B2
Test Date	2016/8/23

Test Method

The samples were tested according to the IES LM-79-2008.

Photometric paramters were measured using a type C goniophotometer and software.

The ambient temperature shall be maintained at 25° C ± 1° C, measured at a point not more than 1 m from the sample and at the same height as the sample.

The voltage of an AC power supply (RMS voltage)or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load.

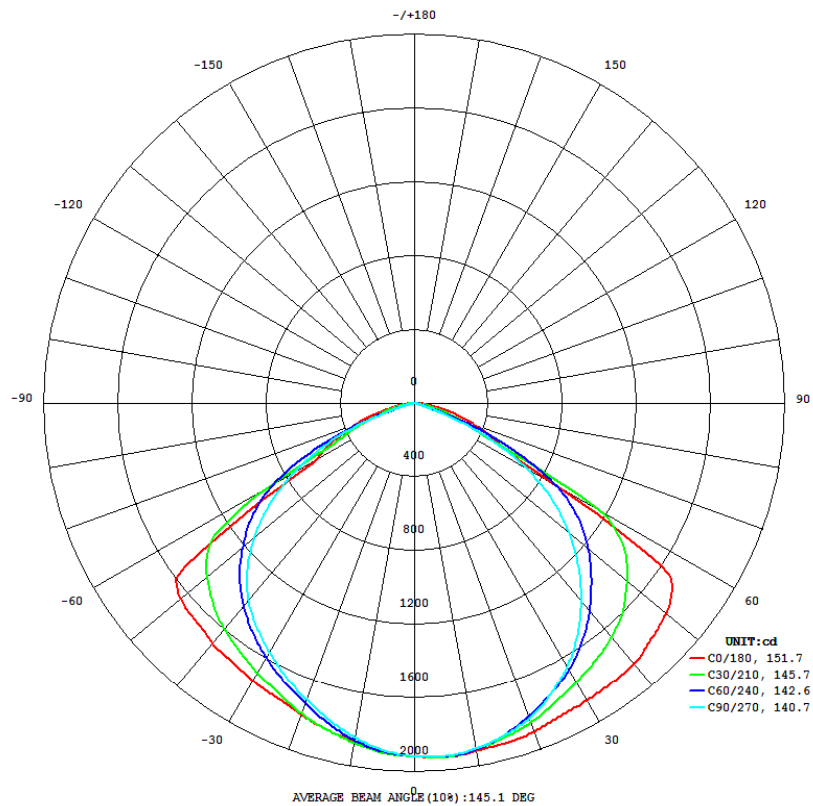
The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 0.5° vertical intervals and 10° horizontal intervals.

The sample is mounted in Troffer, Lithonia 2PM3N G B 2 28T5 12LD MVOLT GEB10PS.

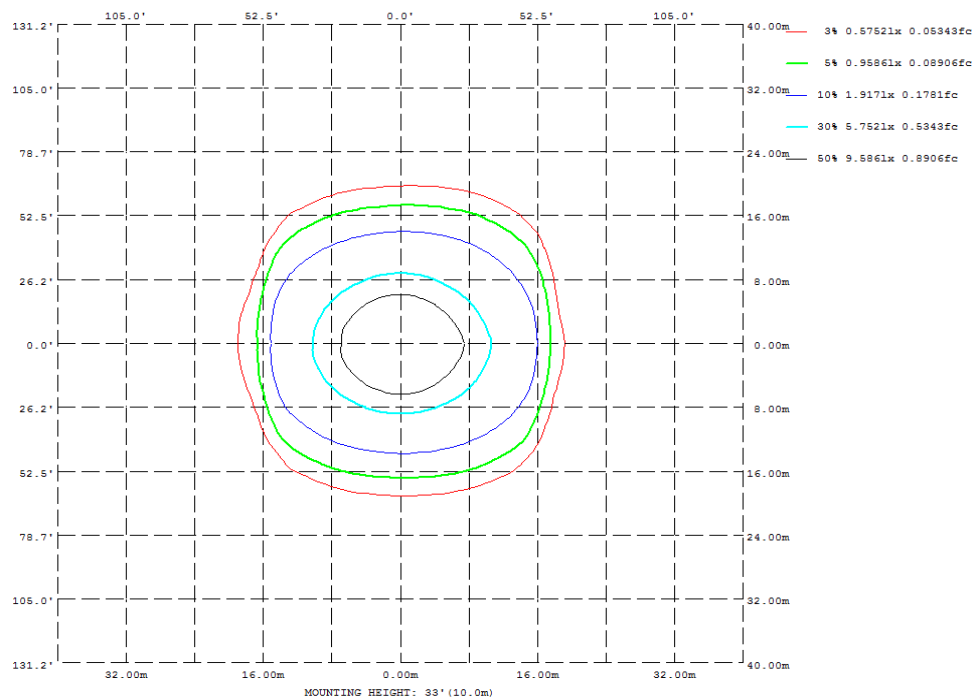
Test Results

Test Type	Voltage (V AC)		Frequen- cy (Hz)	Current (A)	Power (W)	Power Factor	Orientat- ion	Operate time (Min.)	Stabilization time (Min.)
Input	119.89		60.00	0.457	54.36	0.993	Light Down	60	30
Test Type	Total Flux (lm)	Field angle (10%)		Beam angle (50%)		Zonal Lumen Result	Spacing Criteria		Luminous Efficacy (lm/W)
		C90- 270	C0-180	C90- 270	C0-180	0°-60°	0°-180°	90°-270°	
Output	5404.7	140.7	151.7	108.4	116.8	87.2%	1.38	1.23	99.4

Light Distrubtion Curve



Isolux Plot



PlotZonal Lumen Tabulation

DEG	LUMINOUS INTENSITY:cd									UNIT:lm		
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	\$lum,lamp
10	1916	1908	1903	1897	1864	1869	1844	1874	0- 10	181.7	181.7	3.36,3.36
20	1896	1823	1818	1817	1798	1761	1713	1760	10- 20	521.8	703.5	13.13
30	1862	1704	1650	1694	1743	1636	1564	1631	20- 30	805.3	1509	27.9,27.9
40	1844	1560	1405	1539	1700	1512	1395	1495	30- 40	1016	2525	46.7,46.7
50	1774	1369	1090	1336	1648	1328	1130	1348	40- 50	1132	3657	67.7,67.7
60	835.6	1012	684.0	944.3	612.4	990.3	758.5	1061	50- 60	1058	4715	87.2,87.2
70	347.1	219.4	161.1	201.8	335.8	234.0	256.0	282.9	60- 70	518.8	5234	96.8,96.8
80	111.0	45.45	25.69	40.46	93.79	49.37	36.87	55.38	70- 80	143.3	5377	99.5,99.5
90	2.024	0.0615	0	0	0	0.0792	0.4373	1.462	80- 90	22.82	5400	99.9,99.9
100	0	0	0	0	0.1597	0.9211	1.092	1.168	90-100	0.1882	5400	99.9,99.9
110	0	0.7558	0	0.4168	1.934	2.184	2.460	2.441	100-110	0.7788	5401	99.9,99.9
120	0.8547	0.0297	0	0	1.782	1.872	2.172	2.086	110-120	1.230	5402	100,100
130	0.1585	0.2267	0.0201	0.0914	1.628	1.776	0.4368	2.038	120-130	0.7597	5403	100,100
140	0.2977	0.3313	0.0604	0.2978	1.628	1.335	0.3239	1.519	130-140	0.5967	5404	100,100
150	0.3446	0.3204	0.2205	0.3246	1.538	0.8262	0.4028	1.069	140-150	0.4503	5404	100,100
160	0.3386	0.3264	0.3044	0.3499	1.288	0.7318	0.4028	0.9952	150-160	0.2992	5404	100,100
170	0.7416	0.5035	0.3822	0.7811	1.231	0.7223	0.4028	0.7506	160-170	0.1885	5405	100,100
180	0.9536	0.5243	0.3827	0.9340	1.072	0.6430	0.4028	0.6690	170-180	0.0643	5405	100,100



Intensity Data(cd)

CANDELA TABULATION

	0	10	20	30	40	50	60	70	80	90
0	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258
5	1922.110	1920.620	1920.690	1921.830	1917.920	1917.150	1916.250	1913.670	1911.040	1900.140
10	1902.750	1902.100	1902.890	1905.090	1898.040	1898.530	1898.820	1893.860	1888.050	1864.180
15	1868.630	1868.770	1867.600	1866.490	1857.640	1859.310	1867.630	1870.120	1866.250	1835.050
20	1817.770	1819.920	1817.180	1812.730	1811.950	1822.030	1832.290	1840.390	1834.590	1797.510
25	1742.990	1743.550	1742.220	1744.850	1757.400	1768.180	1785.770	1802.700	1808.370	1762.880
30	1649.880	1648.440	1647.310	1662.120	1680.930	1706.850	1742.820	1770.620	1787.790	1742.990
35	1538.660	1533.410	1541.580	1565.300	1593.590	1640.940	1693.680	1736.780	1768.340	1715.520
40	1404.940	1401.840	1418.420	1454.910	1508.710	1568.490	1638.920	1701.750	1746.730	1699.870
45	1254.400	1253.810	1282.250	1333.840	1409.590	1488.040	1566.150	1648.320	1709.100	1670.200
50	1089.870	1088.400	1132.900	1201.960	1293.240	1377.800	1479.090	1592.990	1676.670	1647.670
55	903.350	909.810	966.570	1046.140	1133.250	1235.180	1349.770	1473.400	1483.060	1436.000
60	683.990	695.900	754.950	819.750	897.480	991.070	867.950	675.600	630.500	612.420
65	426.470	438.490	483.890	513.630	558.390	398.650	402.630	439.670	474.140	478.990
70	181.140	166.090	182.210	208.240	184.240	219.420	254.910	291.640	326.700	335.760
75	63.020	64.040	68.540	72.760	82.240	101.460	133.590	165.520	193.470	204.290
80	25.690	26.100	28.030	31.160	36.610	44.310	55.370	70.620	86.150	93.790
85	6.340	6.320	6.830	7.810	9.690	11.930	15.010	19.410	24.880	28.980
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.100	0.000	0.000	0.000	0.000	0.000	0.160
105	0.000	0.000	0.000	0.000	0.850	0.160	0.000	0.000	0.000	0.810
110	0.000	0.000	0.000	0.000	0.000	0.830	0.160	0.880	0.680	1.930
115	0.000	0.000	0.000	0.000	0.000	0.000	0.130	1.330	1.300	2.730
120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.060	0.120	1.780
125	0.020	0.000	0.000	0.220	0.000	0.000	0.000	0.060	0.110	1.630
130	0.020	0.080	0.260	0.310	0.190	0.000	0.060	0.300	0.300	1.630
135	0.060	0.090	0.300	0.380	0.300	0.120	0.220	0.300	0.310	1.630
140	0.060	0.110	0.320	0.370	0.300	0.290	0.260	0.320	0.300	1.630
145	0.120	0.130	0.310	0.380	0.300	0.340	0.290	0.340	0.300	1.600
150	0.220	0.150	0.310	0.380	0.300	0.340	0.270	0.310	0.300	1.540
155	0.250	0.200	0.320	0.350	0.320	0.310	0.250	0.260	0.260	1.400
160	0.300	0.300	0.340	0.350	0.410	0.290	0.260	0.260	0.260	1.290
165	0.340	0.310	0.340	0.350	0.730	0.340	0.380	0.340	0.360	1.260
170	0.380	0.340	0.330	0.350	0.930	0.630	0.660	0.730	0.800	1.230
175	0.390	0.400	0.380	0.350	0.920	0.690	0.700	0.790	0.930	1.090
180	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380

Vert. Horizontal Angles
Angles

	100	110	120	130	140	150	160	170	180	190
0	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258
5	1902.790	1908.430	1906.670	1904.990	1900.910	1899.220	1896.270	1896.330	1891.510	1893.810
10	1869.860	1872.810	1874.600	1872.410	1864.950	1860.070	1854.250	1851.900	1844.200	1848.390
15	1843.510	1841.330	1834.160	1823.220	1810.290	1800.590	1792.610	1789.520	1781.580	1787.570
20	1807.720	1803.810	1792.490	1772.210	1750.720	1732.320	1722.910	1719.930	1713.040	1719.310
25	1774.580	1765.410	1739.370	1710.460	1687.700	1667.000	1649.380	1647.410	1640.270	1649.170
30	1750.110	1733.570	1692.880	1649.930	1621.290	1597.960	1572.780	1572.160	1563.570	1573.540
35	1727.100	1699.110	1644.850	1598.460	1555.200	1521.460	1497.170	1491.830	1484.380	1492.550
40	1708.860	1664.080	1597.840	1538.600	1486.330	1434.860	1409.490	1396.950	1394.580	1401.150
45	1674.950	1615.200	1536.950	1467.330	1402.120	1333.980	1292.790	1273.250	1277.100	1284.940
50	1647.910	1568.120	1462.520	1365.520	1291.450	1210.550	1153.620	1124.630	1130.110	1141.400
55	1480.530	1467.430	1350.980	1241.400	1149.840	1069.060	999.470	956.110	956.970	975.050
60	626.370	714.770	913.710	1029.250	951.440	879.780	817.620	763.530	758.510	786.360
65	480.580	453.170	421.320	454.920	647.410	598.420	571.760	528.930	522.070	555.630
70	332.410	303.700	273.500	246.730	221.240	285.600	276.400	260.550	256.040	279.070
75	200.370	177.000	148.960	121.050	102.360	95.860	98.220	97.740	97.860	103.850
80	90.950	78.210	64.160	53.100	45.650	40.540	38.330	36.860	36.870	38.920
85	27.900	23.870	19.640	16.880	14.850	12.920	11.780	11.320	11.360	12.180

Light Distrubtion Curve (Cont'd)

CANDELA TABULATION - (Cont.)

90	0.000	0.000	0.000	0.020	0.140	0.280	0.330	0.410	0.440	0.580
95	0.000	0.180	0.000	0.180	0.440	0.580	0.480	0.460	0.400	0.340
100	0.200	0.440	0.520	0.830	1.010	1.170	1.200	1.030	1.090	0.880
105	0.840	0.970	1.150	1.380	1.820	2.400	1.830	1.880	1.730	1.600
110	1.930	2.170	2.400	2.430	1.940	1.840	2.030	2.330	2.460	2.310
115	2.740	2.700	2.420	1.700	1.910	1.800	1.710	2.220	2.520	2.280
120	1.850	1.720	1.780	1.840	1.900	1.410	1.350	1.880	2.170	1.940
125	1.890	1.920	1.970	1.880	1.880	0.950	0.700	1.200	1.450	1.270
130	1.720	1.880	1.910	1.880	1.670	0.600	0.400	0.400	0.440	0.380
135	1.880	1.810	1.840	1.900	1.500	0.380	0.400	0.340	0.300	0.330
140	1.860	1.730	1.890	1.840	1.030	0.380	0.400	0.340	0.320	0.370
145	1.850	1.680	1.860	1.480	0.650	0.380	0.400	0.370	0.380	0.390
150	1.580	1.580	1.580	1.270	0.390	0.380	0.400	0.380	0.400	0.400
155	1.530	1.510	1.440	1.050	0.380	0.380	0.400	0.400	0.400	0.400
160	1.310	1.310	1.280	1.010	0.450	0.380	0.400	0.400	0.400	0.400
165	1.260	1.250	1.270	1.010	0.500	0.410	0.400	0.400	0.400	0.400
170	1.270	1.200	1.180	0.890	0.560	0.450	0.400	0.400	0.400	0.400
175	0.970	0.990	0.950	0.690	0.610	0.450	0.400	0.400	0.400	0.400
180	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380

Vert. Angles Horizontal Angles

	200	210	220	230	240	250	260	270	280	290
0	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258
5	1897.110	1900.540	1905.340	1909.970	1912.810	1918.890	1918.680	1930.390	1933.110	1928.580
10	1857.850	1864.580	1870.410	1878.940	1881.540	1891.680	1894.400	1916.420	1917.050	1908.400
15	1798.030	1803.240	1810.830	1827.230	1845.050	1863.420	1875.170	1910.290	1901.350	1888.830
20	1728.480	1731.620	1747.180	1773.290	1806.890	1830.930	1849.590	1895.900	1881.690	1866.070
25	1649.490	1660.420	1685.700	1712.800	1752.070	1787.880	1814.080	1871.320	1853.930	1826.750
30	1573.000	1589.050	1615.620	1646.110	1695.200	1746.640	1789.520	1861.850	1838.370	1793.130
35	1492.100	1512.390	1540.630	1582.910	1645.350	1708.460	1766.760	1854.660	1822.620	1758.730
40	1411.240	1431.490	1467.550	1522.850	1592.120	1667.640	1741.900	1844.180	1796.500	1720.040
45	1311.370	1345.990	1397.310	1459.080	1533.170	1612.770	1696.930	1808.430	1754.890	1684.910
50	1185.740	1248.920	1315.800	1381.090	1451.490	1542.700	1644.560	1773.820	1704.000	1597.500
55	1033.320	1116.710	1202.120	1271.700	1354.560	1449.040	1557.970	1698.590	1611.750	1495.960
60	857.640	948.780	1022.720	1100.280	1146.750	1217.070	1280.950	1355.630	1339.890	1219.210
65	621.540	690.930	736.800	801.350	832.480	882.040	940.390	1008.730	986.060	821.800
70	318.040	348.740	369.480	406.400	428.600	468.130	514.900	570.060	537.780	384.360
75	110.670	110.770	114.510	132.000	152.730	174.890	201.470	228.210	202.110	170.800
80	42.830	48.120	51.430	59.340	69.680	82.850	97.400	111.010	96.730	79.130
85	13.580	15.510	18.490	22.050	25.570	29.880	35.630	40.430	34.280	27.150
90	0.910	1.180	1.350	1.570	1.640	1.800	2.280	2.020	1.140	0.670
95	0.290	0.410	0.650	0.250	0.000	0.000	0.000	0.000	0.000	0.000
100	0.780	0.840	1.260	1.080	0.390	0.140	0.120	0.000	0.000	0.000
105	1.390	1.600	1.770	1.430	1.140	0.850	0.690	0.000	0.000	0.000
110	1.770	1.710	2.210	2.670	2.030	1.480	1.330	0.000	0.060	0.390
115	1.570	1.730	1.910	2.230	3.390	2.470	2.880	1.310	1.250	0.580
120	1.380	1.440	1.940	2.230	2.200	1.920	2.270	0.850	0.270	0.150
125	0.870	0.910	1.890	2.290	2.380	2.120	1.830	0.160	0.160	0.140
130	0.450	0.790	1.770	2.300	2.540	2.160	1.910	0.160	0.200	0.180
135	0.430	0.580	1.620	2.250	2.580	2.160	1.900	0.190	0.260	0.230
140	0.430	0.610	0.970	2.060	2.570	2.160	1.880	0.300	0.290	0.280
145	0.430	0.580	0.790	1.900	2.490	2.150	1.870	0.360	0.310	0.320
150	0.430	0.450	0.780	1.380	2.160	2.020	1.710	0.340	0.310	0.270
155	0.430	0.450	0.780	1.120	2.110	1.990	1.600	0.300	0.290	0.250
160	0.430	0.450	0.680	1.310	2.350	1.990	1.600	0.340	0.290	0.290
165	0.430	0.450	0.590	1.280	1.980	1.980	1.590	0.510	0.490	0.430
170	0.430	0.450	0.490	1.010	1.100	1.780	1.370	0.740	0.720	0.610
175	0.430	0.450	0.430	0.910	1.040	1.350	1.040	0.770	0.790	0.660
180	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380

Light Distribution Curve (Cont'd)

CANDELA TABULATION - (Cont.)

Vert. Angles	Horizontal Angles						
	300	310	320	330	340	350	360
0	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258	1917.258
5	1928.740	1925.900	1924.390	1923.930	1922.350	1921.600	1922.110
10	1908.070	1907.020	1908.460	1908.610	1906.100	1904.720	1902.750
15	1877.160	1888.400	1884.480	1866.920	1870.770	1873.970	1868.630
20	1844.780	1830.950	1815.960	1810.200	1815.430	1824.090	1817.770
25	1795.520	1778.690	1761.600	1742.060	1740.240	1750.710	1742.990
30	1747.760	1715.860	1691.550	1670.760	1654.570	1659.950	1649.880
35	1704.220	1655.750	1611.470	1579.760	1552.890	1549.420	1536.660
40	1655.740	1592.190	1527.660	1473.060	1433.110	1415.750	1404.940
45	1595.120	1514.840	1434.020	1354.540	1295.070	1265.190	1254.400
50	1501.250	1413.270	1323.890	1227.330	1144.610	1099.220	1089.870
55	1385.440	1276.250	1178.610	1076.530	978.080	920.220	903.350
60	1119.280	1061.320	962.570	871.080	777.260	709.670	683.990
65	394.540	552.060	644.870	565.340	506.990	449.750	426.470
70	256.070	228.940	209.930	251.790	207.200	175.030	161.140
75	142.020	112.480	89.350	78.810	72.550	66.330	63.020
80	63.070	49.950	40.940	34.540	30.200	27.130	25.690
85	21.240	16.660	12.980	10.010	8.120	6.920	6.340
90	0.200	0.040	0.080	0.100	0.060	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.130	0.610	0.000	0.000	0.000
110	0.110	0.750	0.760	0.000	0.000	0.000	0.000
115	1.210	0.040	0.020	0.000	0.000	0.000	0.000
120	0.080	0.040	0.020	0.000	0.000	0.000	0.000
125	0.080	0.040	0.040	0.260	0.060	0.060	0.020
130	0.270	0.180	0.280	0.340	0.270	0.100	0.020
135	0.280	0.280	0.360	0.340	0.300	0.100	0.060
140	0.290	0.310	0.360	0.340	0.300	0.100	0.060
145	0.290	0.300	0.360	0.340	0.300	0.120	0.120
150	0.290	0.280	0.360	0.340	0.320	0.260	0.220
155	0.270	0.300	0.360	0.340	0.340	0.280	0.250
160	0.310	0.300	0.360	0.340	0.350	0.320	0.300
165	0.550	0.410	0.400	0.340	0.350	0.320	0.340
170	0.690	0.530	0.470	0.410	0.400	0.380	0.380
175	0.680	0.600	0.460	0.400	0.410	0.390	0.390
180	0.380	0.380	0.380	0.380	0.380	0.380	0.380

Test Report

Test No.3: Total Harmonic Distortion Test -120V

Environmental Conditions

Temperature (°C)	24.9	Relative Humidity (%)	53
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Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF119	Power Meter	2016/1/5	2017/1/4
DLF114	AC Power Supply	2016/1/5	2017/1/4
DLF115	Temperature & Humidity Datalogger	2016/1/5	2017/1/4

Test Sample	B2
Test Date	2016/8/29

Test Method

The samples were tested according to the ANSI C82.77:2002.

The total harmonic distortion shall be measured to the 40th order.

The ambient temperature condition was maintained at 25° C ± 1° C. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion were calculated.

Test Results

Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD (%)	Operate time (Min.)	Stabilization time (Min.)
Input	120.01	60	0.467	55.82	0.995	7.69	40	30

Test Report

Test No.4: Total Harmonic Distortion Test -277V

Environmental Conditions

Temperature (°C)	24.9	Relative Humidity (%)	54
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Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF119	Power Meter	2016/1/5	2017/1/4
DLF114	AC Power Supply	2016/1/5	2017/1/4
DLF115	Temperature & Humidity Datalogger	2016/1/5	2017/1/4

Test Sample	B2
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Test Date	2016/8/29
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Test Method

The samples were tested according to the ANSI C82.77:2002.

The total harmonic distortion shall be measured to the 40th order.

The ambient temperature condition was maintained at 25° C ± 1° C. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion were calculated.

Test Results

Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD (%)	Operate time (Min.)	Stabilization time (Min.)
Input	277.02	60	0.202	54.16	0.967	8.17	40	30

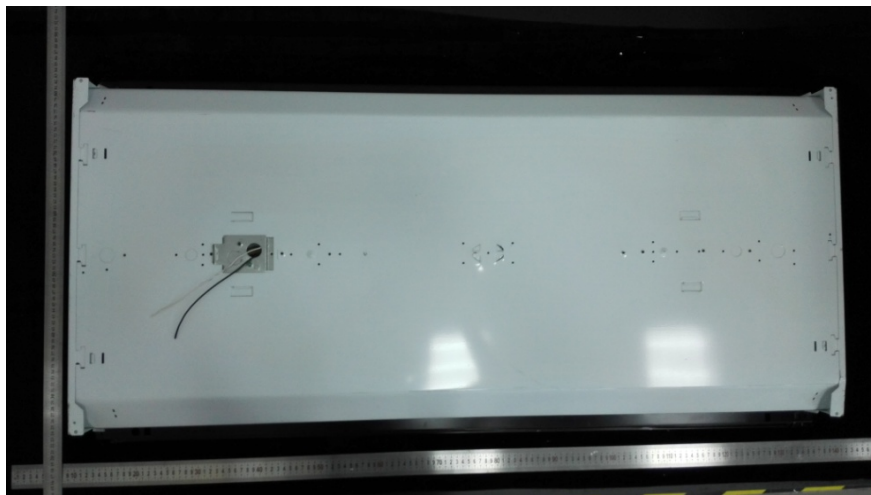
NVLAP LAB CODE 201074-0

Test Report

Test Sample	B2
Photos of Sample	



Photos of Sample



Photos of Sample



***** End of Test Report*****