

Photometric Test Report

Relevant Standards

- ☒ IES LM-79-2008
- ☒ ANSI C82.77:2017

Prepared For

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2023/1/16

Prepared By



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Approved By



Kevin Jia

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1.0 Test Summary

DLC Technical Requirements v5.1

Outdoor - Pole/Arm-Mounted Area and Roadway Luminaires				
Requirement Category	Test Method	Requirements		Test value
Luminaire Output (lm) (Goniophotometer - Section 4.2)	IES LM-79-2008	1000		10460
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	142.1
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		73.6
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%		21.85%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9		0.862
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3045±175	2924
		4 step	3045±100	
Minimum CRI (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥70		81
Minimum R9 (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥-40		1
Minimum Rf (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥70		84
Minimum Rg (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥89		94
Minimum IES Rcs,h1 (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	-18%≤IES Rcs,h1≤+23%		-12%
Zonal Lumen Requirement (0°-90°) (Goniophotometer - Section 4.2)	IES LM-79-2008	100%		100.00%
Zonal Lumen Requirement (80°-90°) (Goniophotometer - Section 4.2)	IES LM-79-2008	≤10%		0.73%
Input Voltage (V)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		480
Input Current (A)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		0.178
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		73.6

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2023/1/13	ALEDM3TY/480	Z1
2	Goniophotometer Test	2023/1/13	ALEDM3TY/480	Z1
3	THD and PF Test	2023/1/13	ALEDM3TY/480	Z1

Remark(If any)

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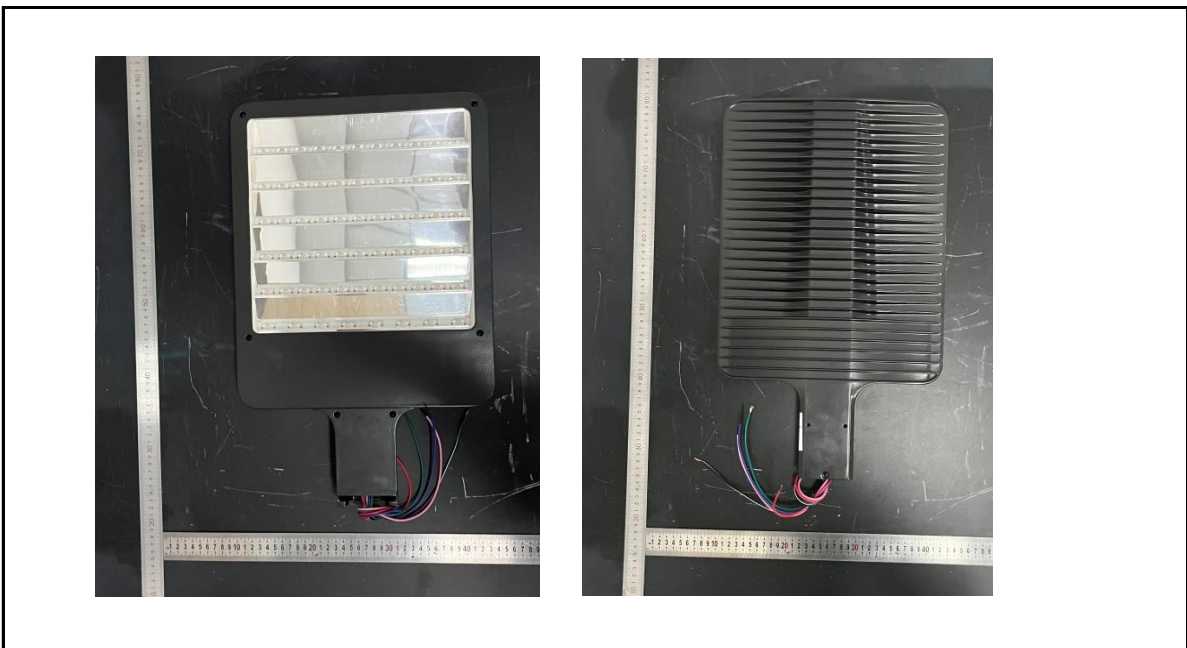
3.0 Production Description

Luminaire Description: ALEDM3TY/480

Description: 78W @ 3000K

Electrical Specification: 480V,50/60HZ

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	ALEDM3TY/480	Sample ID.	Z1
Opreate time (Min.)	90	Stabilization time (Min.)	45
Temperature (°C)	25.3	Humidity (%RH)	56.0

Test Method

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

Photometric paramters 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 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 Result

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
480.00	60	0.178	73.6	0.862

Test Result

CCT (K)	CRI	R9	Duv
2924	81	1	0.001

Rf	Rg	IES Rcs,h1
84	94	-12%

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	ALEDM3TY/480	Sample ID.	Z1
Operate time (Min.)	90	Stabilization time (Min.)	45
Temperature (°C)	25.3	Humidity (%RH)	54.0

Test Method

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

Photometric parameters were measured using a type C 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 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.

Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WORST CASE	480.00	60	0.178	73.6	0.862

Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
10460	88.4	161.0	35.7	147.7	142.1

Zonal Lumen Requirement (0° - 90°)	Zonal Lumen Requirement (80° - 90°)	BUG rating
100.00%	0.73%	B1-U0-G2

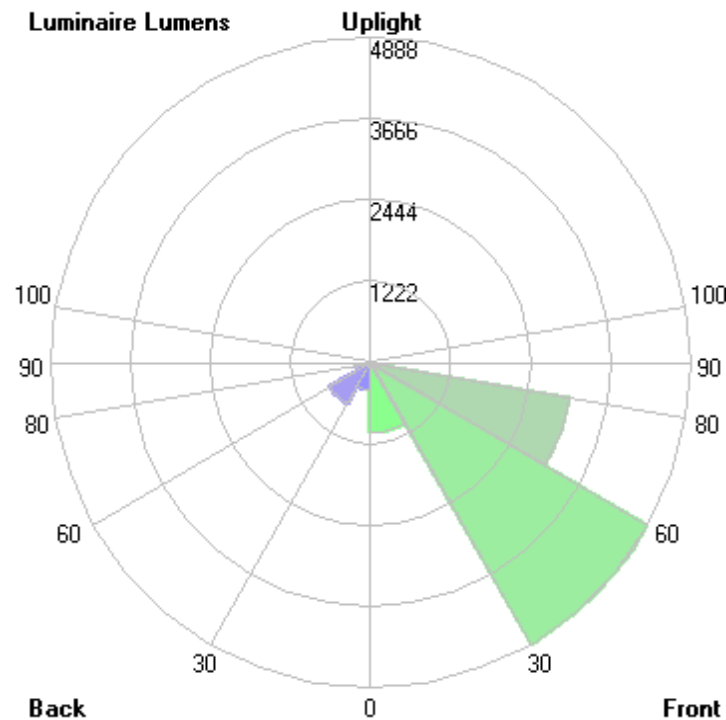
4.2 Goniophotometer Test

Zonal Lumen Summary

	Zonal (lm)		Total (lm)	Percent
0-10	164.04	0 - 10	164.04	1.57%
10-20	461.65	0 - 20	625.69	5.98%
20-30	842.59	0 - 30	1468.28	14.04%
30-40	1410.24	0 - 40	2878.52	27.52%
40-50	1903.37	0 - 50	4781.89	45.72%
50-60	2289.11	0 - 60	7071.00	67.60%
60-70	2262.68	0 - 70	9333.68	89.23%
70-80	1049.84	0 - 80	10383.52	99.27%
80-90	76.32	0 - 90	10459.84	100.00%
90-100	0.00	0 - 100	10459.84	100.00%
100-110	0.00	0 - 110	10459.84	100.00%
110-120	0.00	0 - 120	10459.84	100.00%
120-130	0.00	0 - 130	10459.84	100.00%
130-140	0.00	0 - 140	10459.84	100.00%
140-150	0.00	0 - 150	10459.84	100.00%
150-160	0.00	0 - 160	10459.84	100.00%
160-170	0.00	0 - 170	10459.84	100.00%
170-180	0.00	0 - 180	10459.84	100.00%

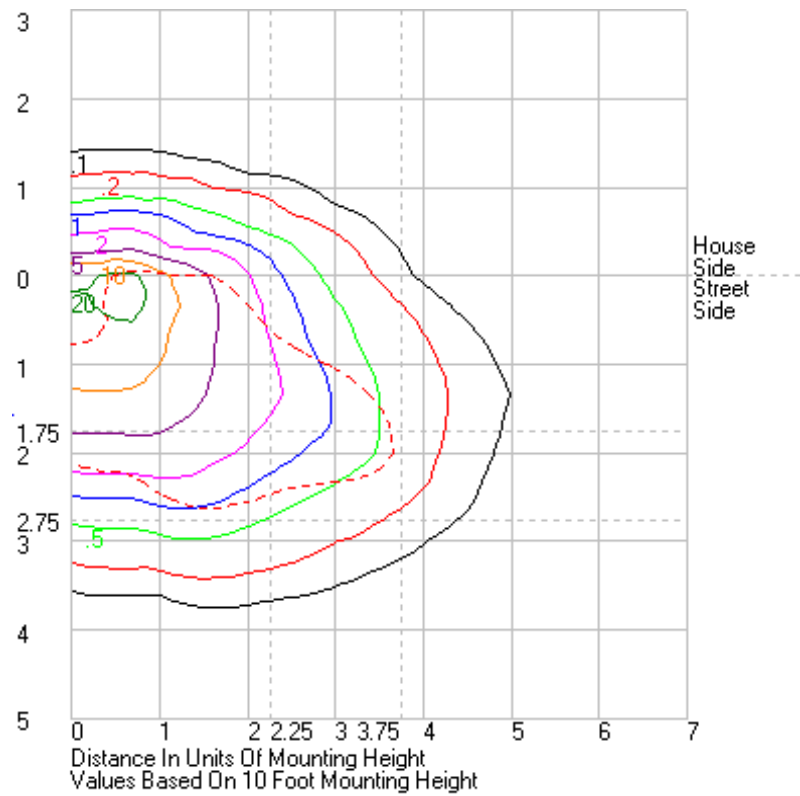
4.2 Goniophotometer Test

LCS/BUG



	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	1051.2	N.A.	10.1
FM - Front-Medium (30-60)	4888.0	N.A.	46.7
FH - Front-High (60-80)	3090.6	N.A.	29.5
FVH - Front-Very High (80-90)	70.0	N.A.	0.7
BL - Back-Low (0-30)	417.0	N.A.	4.0
BM - Back-Medium (30-60)	714.7	N.A.	6.8
BH - Back-High (60-80)	221.9	N.A.	2.1
BVH - Back-Very High (80-90)	6.3	N.A.	0.1
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	10459.7	N.A.	100.0
BUG Rating	B1-U0-G2		

Isolines



4.2 Goniophotometer Test

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360
0	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45	1791.45
1	1817.59	1813.48	1811.54	1807.73	1803.32	1797.17	1790.36	1782.19	1773.53	1765.24	1757.54	1752.92	1754.73	1752.92	1757.54	1765.24	1773.53	1782.19	1790.36	1797.17	1803.32	1807.73	1811.54	1813.48	1817.59
2	1844.27	1838.47	1834.04	1827.49	1818.78	1807.6	1794.14	1776.4	1757.17	1738.83	1722.49	1709.44	1706.4	1709.44	1722.49	1738.83	1757.17	1776.4	1794.14	1807.6	1818.78	1827.49	1834.04	1838.47	1844.27
3	1875.29	1870.05	1863.09	1851.27	1837.11	1819.54	1799.17	1771.29	1738.93	1703.6	1666.51	1640.4	1633.78	1640.4	1666.51	1703.6	1738.93	1771.29	1799.17	1819.54	1837.11	1851.27	1863.09	1870.05	1875.29
4	1909.37	1902.55	1893.57	1878.45	1858.18	1833.73	1805.51	1766.64	1716.46	1654.64	1596.89	1555.12	1539.44	1555.12	1596.89	1654.64	1716.46	1766.64	1805.51	1833.73	1858.18	1878.45	1893.57	1902.55	1909.37
5	1946.32	1938.77	1927.55	1909.52	1882.56	1850.15	1814.46	1762.98	1689.08	1597.83	1513.25	1452.18	1429.8	1452.18	1513.25	1597.83	1689.08	1762.98	1814.46	1850.15	1882.56	1909.52	1927.55	1938.77	1946.32
6	1981.04	1975.05	1965.26	1942.17	1908.87	1868.22	1823.9	1759.06	1655.28	1530.03	1411.75	1333.73	1307.81	1333.73	1411.75	1530.03	1655.28	1759.06	1823.9	1868.22	1908.87	1942.17	1965.26	1975.05	1981.04
7	2012.82	2006.92	1998.41	1977.78	1937.56	1888.87	1836.06	1753.57	1616.27	1453.74	1313.81	1221.45	1186.3	1221.45	1313.81	1453.74	1616.27	1753.57	1836.06	1888.87	1937.56	1977.78	1998.41	2006.92	2012.82
8	2042.37	2038.64	2033.92	2013.42	1968.71	1910.91	1848.86	1748.23	1572.58	1371.26	1206.8	1099.73	1061.71	1099.73	1206.8	1371.26	1572.58	1748.23	1848.86	1910.91	1968.71	2013.42	2033.92	2038.64	2042.37
9	2072.23	2069.53	2066.56	2047.27	2001.15	1935.01	1864.69	1741.28	1523.76	1285.73	1100.45	979.835	935.668	979.835	1100.45	1285.73	1523.76	1741.28	1864.69	1935.01	2001.15	2047.27	2066.56	2069.53	2072.23
10	2102.4	2100.89	2099.83	2081.71	2036.17	1963.01	1884.77	1734.92	1469.59	1202.28	994.92	861.379	818.737	861.379	994.92	1202.28	1469.59	1734.92	1884.77	1963.01	2036.17	2081.71	2099.83	2100.89	2102.4
11	2125.96	2129.51	2135.5	2116.03	2071.98	1995.9	1909.5	1730.1	1413.65	1114.17	883.022	747.801	707.025	747.801	883.022	1114.17	1413.65	1730.1	1909.5	1995.9	2071.98	2116.03	2135.5	2129.51	2125.96
12	2141.74	2149.22	2165.73	2152.05	2111.62	2035.88	1942.09	1727.11	1358.23	1025.18	785.312	643.834	601.056	643.834	785.312	1025.18	1358.23	1727.11	1942.09	2035.88	2111.62	2152.05	2165.73	2149.22	2141.74
13	2153.95	2165.63	2192.19	2190.95	2156.76	2084.63	1983.8	1728.77	1303.63	937.363	686.114	549.821	514.722	549.821	686.114	937.363	1303.63	1728.77	1983.8	2084.63	2156.76	2190.95	2192.19	2165.63	2153.95
14	2162.79	2178.28	2213.62	2230.48	2207.88	2146.07	2037.9	1736.16	1250.17	850.024	597.599	478.88	448.08	478.88	597.599	850.024	1250.17	1736.16	2037.9	2146.07	2207.88	2230.48	2213.62	2178.28	2162.79
15	2166.04	2187.7	2232.64	2268.95	2267.32	2220.88	2103.46	1749.96	1199.37	769.937	529.13	427.793	405.652	427.793	529.13	769.937	1199.37	1749.96	2103.46	2220.88	2267.32	2268.95	2232.64	2187.7	2166.04
16	2156.62	2189.19	2251.64	2308.13	2340.54	2307.22	2180.71	1771.85	1149	694.899	470.703	393.952	377.39	393.952	470.703	694.899	1149	1771.85	2180.71	2307.22	2340.54	2308.13	2251.64	2189.19	2156.62
17	2138.23	2180.79	2266.76	2348.44	2426.41	2405.19	2265.57	1794.76	1100.71	627.529	433.804	373.348	357.781	373.348	433.804	627.529	1100.71	1794.76	2265.57	2405.19	2426.41	2348.44	2266.76	2180.79	2138.23
18	2122.06	2167.74	2275.03	2395.77	2521.56	2508.95	2354.76	1819.92	1051.19	572.384	408.994	356.961	341.312	356.961	408.994	572.384	1051.19	1819.92	2354.76	2508.95	2521.56	2395.77	2275.03	2167.74	2122.06
19	2106.97	2156.38	2278.32	2449.99	2624.35	2614.91	2441.15	1841.7	1001.03	525.257	391.053	341.449	326.276	341.449	391.053	525.257	1001.03	1841.7	2441.15	2614.91	2624.35	2449.99	2278.32	2156.38	2106.97
20	2090.36	2146.79	2281.99	2510.84	2737.75	2722.34	2527.65	1856.23	950.605	490.705	378.938	327.999	313.433	327.999	378.938	490.705	950.605	1856.23	2527.65	2722.34	2737.75	2510.84	2281.99	2146.79	2090.36
21	2075.61	2136	2285.94	2575.99	2847.91	2822.47	2608.52	1865.98	896.937	467.558	365.887	315.567	301.127	315.567	365.887	467.558	896.937	1865.98	2608.52	2822.47	2847.91	2575.99	2285.94	2136	2075.61
22	2061.01	2129.75	2294.03	2643.15	2955.27	2921.76	2693.38	1869.13	842.268	452.543	353.849	305.442	291.265	305.442	353.849	452.543	842.268	1869.13	2693.38	2921.76	2955.27	2643.15	2294.03	2129.75	2061.01
23	2042.33	2119.37	2305.23	2716.6	3058.88	3022.99	2781.53	1874.23	789.458	442.184	343.823	296.428	282.601	296.428	343.823	442.184	789.458	1874.23	2781.53	3022.99	3058.88	2716.6	2305.23	2119.37	2042.33
24	2024.76	2106.44	2321.64	2794.84	3158.53	3129.76	2876.78	1878.42	738.065	433.585	334.814	288.749	274.927	288.749	334.814	433.585	738.065	1878.42	2876.78	3129.76	3158.53	2794.84	2321.64	2106.44	2024.76
25	2015.41	2099.11	2342.19	2874.79	3258.87	3247.52	2979.62	1881.12	691.693	426.103	328.234	282.12	267.997	282.12	328.234	426.103	691.693	1881.12	2979.62	3247.52	3258.87	2874.79	2342.19	2099.11	2015.41
26	2014.3	2098.86	2362.52	2952.96	3359.41	3379.77	3091.06	1885.69	654.095	419.364	322.322	275.512	260.498	275.512	322.322	419.364	654.095	1885.69	3091.06	3379.77	3359.41	2952.96	2362.52	2098.86	2014.3
27	2025.67	2107.99	2386.75	3027.7	3468.84	3521.65	3204.28	1884.58	622.529	413.687	317.738	269.392	254.038	269.392	317.738	413.687	622.529	1884.58	3204.28	3521.65	3468.84	3027.7	2386.75	2107.99	2025.67
28	2057.92	2130.28	2417.78	3101.95	3590.97	3670.97	3324.62	1880.2	595.575	409.459	313.926	263.282	246.786	263.282	313.926	409.459	595.575	1880.2	3324.62	3670.97	3590.97	3101.95	2417.78	2130.28	2057.92
29	2108.8	2175.55	2459.5	3168.36	3724.05	3825.77	3442.39	1869.83	575.425	405.854	309.927	256.396	239.588	256.396	309.927	405.854	575.425	1869.83	3442.39	3825.77	3724.05	3168.36	2459.5	2175.55	2108.8
30	2173.52	2240.21	2513.91	3230.97	3867.8	3989.6	3558.47	1847.27	562.008	402.901	306.542	249.69	232.575	249.69	306.542	402.901	562.008	1847.27	3558.47	3989.6	3867.8	3230.97	2513.91	2240.21	2173.52
31	2251.55	2325.2	2581.24	3285.72	4015.55	4145.02	3661.24	1815.62	554.016	400.62	302.046	242.481	226.072	242.481	302.046	400.62	554.016	1815.62	3661.24	4145.02	4015.55	3285.72	2581.24	2325.2	2251.55
32	2348.17	2422.69	2667.19	3343.87	4168.3	4292.48	3753.34	1767.09	550.406	399.778	297.746	235.824	217.917	235.824	297.746	399.778	550.406	1767.09	3753.34	4292.48	4168.3	3343.87	2667.19	2422.69	2348.17
33	2464.03	2537.31	2768.56	3409.01	4316.74	4430.52	3832.24	1707.32	549.991	400.379	293.447	227.423	206.316	227.423	293.447	400.379	549.991	1707.32	3832.24	4430.52	4316.74	3409.01	2768.56	2537.31	2464.03
34	2596.22	2668.02	2882.9	3479.94	4456.9	4552.52	3889.17	1642.23	550.91	401.468	288.913	215.22	191.181	215.22	288.913	401.468	550.91	1642.23	3889.17	4552.52	4456.9	3479.94	2882.9	2668.02	2596.22
35	2733.88	2798.86	3003.55	3559.63	4588.29	4659.56	3929.49	1562.73	552.529	402.026	284.565	200.458	173.241	200.458	284.565	402.026	552.529	1562.73	3929.49	4659.56	4588.29	3559.63	3003.55	2798.86	2733.88
36	2881.92	2943.7	3137.97	3651.86	4700.05	4748.16	3947.14	1478.59	555.012	401.375	277.027	182.101	154.846	182.101	277.027	401.375	555.012	1478.59	3947.14	4748.16	4700.05	3651.86	3137.97	2943.7	2881.92
37	3021.99	3090.45	3283.3	3752.37	4792.41	4812.9	3941.48	1387.28	557.632	400.713	265.694	164.041	137.07	164.041	265.694	400.713	557.632	1387.28	3941.48	4812.9	4792.41	3752.37	3283.3	3090.45	3021.99
38	3151.32	3229.1	3430.1	3865.19	4857.23	4853.52	3917.42	1294.23	560.268	400.773	250.281	147.303	122.936	1											

51	4168.38	4442.69	4976.4	5178.11	4148.78	4249.9	3182.22	706.385	465.08	176.916	103.705	73.25	62.081	73.25	103.705	176.916	465.08	706.385	3182.22	4249.9	4148.78	5178.11	4976.4	4442.69	4168.38
52	4258.14	4543.94	5075.28	5214.43	4103.61	4258.86	3187.65	701.293	441.166	167.678	99.028	69.744	58.591	69.744	99.028	167.678	441.166	701.293	3187.65	4258.86	4103.61	5214.43	5075.28	4543.94	4258.14
53	4350.72	4645.35	5178.06	5228.43	4076.49	4278.61	3192.11	697.869	414.934	159.452	95.123	66.309	54.943	66.309	95.123	159.452	414.934	697.869	3192.11	4278.61	4076.49	5228.43	5178.06	4645.35	4350.72
54	4444.71	4752.04	5303.77	5227.21	4064.18	4294.09	3192.06	696.337	386.842	151.471	90.971	62.294	51.081	62.294	90.971	151.471	386.842	696.337	3192.06	4294.09	4064.18	5227.21	5303.77	4752.04	4444.71
55	4515.5	4847.77	5443.8	5224.76	4088.81	4294.65	3177.34	695.538	357.442	143.918	86.88	58.301	46.952	58.301	86.88	143.918	357.442	695.538	3177.34	4294.65	4088.81	5224.76	5443.8	4847.77	4515.5
56	4543.39	4913.48	5591.44	5241.95	4141.94	4267.68	3152.75	695.363	327.6	136.736	82.915	54.117	43.205	54.117	82.915	136.736	327.6	695.363	3152.75	4267.68	4141.94	5241.95	5591.44	4913.48	4543.39
57	4527.98	4939.59	5756.29	5284.89	4214.93	4229.93	3112.31	691.928	299.278	129.697	78.189	49.375	39.321	49.375	78.189	129.697	299.278	691.928	3112.31	4229.93	4214.93	5284.89	5756.29	4939.59	4527.98
58	4474.55	4926.64	5894.82	5354.09	4302.8	4181.44	3055.97	688.855	275.036	122.849	73.731	44.78	35.416	44.78	73.731	122.849	275.036	688.855	3055.97	4181.44	4302.8	5354.09	5894.82	4926.64	4474.55
59	4380.41	4871.69	6014.32	5457.78	4405.9	4122.84	2977.87	679.999	253.519	116.012	68.803	40.492	31.713	40.492	68.803	116.012	253.519	679.999	2977.87	4122.84	4405.9	5457.78	6014.32	4871.69	4380.41
60	4247.57	4768.61	6091.83	5578.53	4512.85	4041.89	2872.56	666.248	238.062	109.076	62.02	36.455	28.037	36.455	62.02	109.076	238.062	666.248	2872.56	4041.89	4512.85	5578.53	6091.83	4768.61	4247.57
61	4076.1	4623.36	6123.03	5712.13	4624.95	3927.34	2742.23	652.892	224.508	101.922	55.944	31.746	24.367	31.746	55.944	101.922	224.508	652.892	2742.23	3927.34	4624.95	5712.13	6123.03	4623.36	4076.1
62	3875.38	4431.21	6099.29	5837.65	4732.95	3797.63	2593.19	636.264	212.371	94.931	49.998	27.742	21.233	27.742	49.998	94.931	212.371	636.264	2593.19	3797.63	4732.95	5837.65	6099.29	4431.21	3875.38
63	3660.75	4222.7	6019.75	5931.37	4840.12	3651.17	2428.9	618.23	200.627	88.083	44.851	24.706	19.286	24.706	44.851	88.083	200.627	618.23	2428.9	3651.17	4840.12	5931.37	6019.75	4222.7	3660.75
64	3381.36	3973.15	5901.53	5994.44	4948.81	3487.1	2264.98	595.613	188.047	80.524	40.169	22.748	17.831	22.748	40.169	80.524	188.047	595.613	2264.98	3487.1	4948.81	5994.44	5901.53	3973.15	3381.36
65	3016.79	3645.41	5721.23	6001.49	5045.45	3326.08	2102.18	566.558	175.893	72.971	34.552	20.746	16.6	20.746	34.552	72.971	175.893	566.558	2102.18	3326.08	5045.45	6001.49	5721.23	3645.41	3016.79
66	2640.58	3268.49	5496.51	5949.81	5113.41	3149.21	1955.56	537.848	163.762	64.974	31.926	19.669	15.523	19.669	31.926	64.974	163.762	537.848	1955.56	3149.21	5113.41	5949.81	5496.51	3268.49	2640.58
67	2234.62	2832.12	5182.32	5821.9	5153.76	2984.86	1808.78	507.71	150.591	57.814	29.695	18.17	14.341	18.17	29.695	57.814	150.591	507.71	1808.78	2984.86	5153.76	5821.9	5182.32	2832.12	2234.62
68	1891.74	2423.59	4801.94	5614.97	5171.78	2815.69	1671.64	475.521	137.622	50.157	26.829	17.197	13.417	17.197	26.829	50.157	137.622	475.521	1671.64	2815.69	5171.78	5614.97	4801.94	2423.59	1891.74
69	1644.43	2090.07	4377.15	5321.82	5143	2668.16	1539.53	439.099	123.538	43.303	25.264	15.807	12.586	15.807	25.264	43.303	123.538	439.099	1539.53	2668.16	5143	5321.82	4377.15	2090.07	1644.43
70	1415.3	1807.7	3891.01	4935.73	5056.42	2556.82	1399.97	406.773	109.705	38.331	23.798	15.003	11.869	15.003	23.798	38.331	109.705	406.773	1399.97	2556.82	5056.42	4935.73	3891.01	1807.7	1415.3
71	1201.03	1558.42	3431.64	4463.94	4964.32	2476.8	1274.99	377.653	95.801	34.88	21.589	14.128	11.043	14.128	21.589	34.88	95.801	377.653	1274.99	2476.8	4463.94	4964.32	3431.64	1558.42	1201.03
72	967.856	1294.28	2959.21	3918.79	4839.81	2415.94	1150.01	344.671	82.461	31.959	20.221	13.51	10.485	13.51	20.221	31.959	82.461	344.671	1150.01	2415.94	4839.81	3918.79	2959.21	1294.28	967.856
73	743.825	1041.88	2494.75	3375.44	4665.28	2354.44	1011.38	308.297	69.262	29.022	18.936	12.553	9.829	12.553	18.936	29.022	69.262	308.297	1011.38	2354.44	4665.28	3375.44	2494.75	1041.88	743.825
74	556.461	791.739	2034.02	2865.32	4407.84	2275.46	868.243	268.686	56.206	26.479	17.738	11.667	9.14	11.667	17.738	26.479	56.206	268.686	868.243	2275.46	4407.84	2865.32	2034.02	791.739	556.461
75	385.885	552.162	1537.18	2424.14	4021.85	2166.45	730.189	226.477	45.152	24.077	16.365	10.682	8.434	10.682	16.365	24.077	45.152	226.477	730.189	2166.45	4021.85	2424.14	1537.18	552.162	385.885
76	290.045	371.997	1122.56	2013.81	3476.9	2048.56	575.873	184.858	38.238	21.786	14.965	9.714	7.658	9.714	14.965	38.238	184.858	575.873	2048.56	3476.9	2013.81	1122.56	371.997	290.045	
77	195.595	257.435	741.549	1569.51	2826.72	1872.98	450.038	146.16	33.627	19.417	13.439	8.691	6.881	8.691	13.439	19.417	33.627	450.038	1872.98	2826.72	1569.51	741.549	257.435	195.595	
78	126.688	180.975	464.604	1185.42	2160.53	1696.18	346.525	115.142	29.946	18.028	11.842	7.57	6.017	7.57	11.842	18.028	29.946	346.525	1696.18	2160.53	1185.42	464.604	180.975	126.688	
79	96.775	119.857	291.659	810.626	1600.01	1441.8	268.741	87.165	26.637	15.933	10.086	6.509	5.317	6.509	10.086	15.933	26.637	87.165	268.741	1441.8	810.626	291.659	119.857	96.775	
80	75.443	89.981	197.701	537.241	1101.17	1184.23	206.25	62.048	23.727	13.559	8.183	5.459	4.398	5.459	8.183	13.559	23.727	62.048	206.25	1184.23	1101.17	537.241	197.701	89.981	75.443
81	59.92	68.305	130.331	343.254	716.214	907.827	157.685	47.258	20.752	11.103	6.635	4.589	3.883	4.589	6.635	11.103	20.752	157.685	907.827	716.214	343.254	130.331	68.305	59.92	
82	47.088	53.307	76.422	218.114	456.175	631.297	117.034	35.848	17.158	8.669	5.317	3.845	3.271	3.845	5.317	8.669	17.158	35.848	117.034	631.297	456.175	218.114	76.422	53.307	47.088
83	35.454	40.771	57.967	115.12	277.17	390.474	84.545	27.605	13.379	6.465	4.19	3.151	2.669	3.151	4.19	6.465	13.379	27.605	84.545	390.474	277.17	115.12	57.967	40.771	35.454
84	28.109	30.876	45.606	75.678	180.378	221.27	58.908	20.489	9.583	4.824	3.238	2.456	2.024	2.456	3.238	4.824	9.583	20.489	58.908	221.27	180.378	75.678	45.606	30.876	28.109
85	20.828	24.001	34.803	55.884	97.36	122.165	39.879	14.593	6.274	3.479	2.357	1.8	1.428	1.8	2.357	3.479	6.274	14.593	39.879	122.165	97.36	55.884	34.803	24.001	20.828
86	16.185	17.962	26.052	36.997	48.106	52.394	26.375	9.326	4.173	2.6375	1.586	1.176	0.804	1.176	1.586	2.6375	4.173	9.326	26.375	52.394	48.106	36.997	26.052	17.962	16.185
87	11.437	12.405	17.508	24.449	30.324	29.416	15.583	5.169	2.598	1.63	1.017	0.64	0.279	0.64	1.017	1.63	2.598	5.169	15.583	29.416	30.324	24.449	17.508	12.405	11.437
88	5.672	6.449	8.954	13.248	16.179	14.692	6.657	2.582	1.657	1.083	0.673	0.531	0.257	0.531	0.673	1.083	1.657	2.582	6.657	14.692	16.179	13.248	8.954	6.449	5.672
89	2.5	1.827	2.587	3.774	5.935	5.371	2.111	1.586	1.017	0.87	0.667	0.602	0.312	0.602	0.667	0.87	1.017	1.586	2.111	5.371	5.935	3.774	2.587	1.827	2.5
90	0	0	0	0	0	0	0	0	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	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	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	0	0	0	0	0	0	0	0
94	0	0	0	0																					

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161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	ALEDM3TY/480	Sample ID.	Z1
Temperature (°C)	25.3	Humidity (%RH)	56.0

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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD
480.00	60	0.178	73.6	0.862	21.85%

5.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2022/12/26	2023/12/25
DLF108	Auxiliary Lamp	2022/12/26	2023/12/25
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2022/12/26	2023/12/25
DLF116	AC Power Source	2022/12/26	2023/12/25
DLF113	Power Meter	2022/12/26	2023/12/25
DLF112	Temperature Recorder	2022/12/26	2023/12/25
DLF114	Temperature & Humidity Datalogger	2022/12/26	2023/12/25
DLF101	Goniophotometer	2022/12/26	2023/12/25
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2022/12/26	2023/12/25
DLF104	AC Power Source	2022/12/26	2023/12/25
DLF507	DC Power Source	2022/12/26	2023/12/25
DLF102	Power Meter	2022/12/26	2023/12/25
DLF111	Temperature & Humidity Datalogger	2022/12/26	2023/12/25
DLF119	Power Meter	2022/12/26	2023/12/25
DLF031	Temperature data logger	2022/12/26	2023/12/25
DLF022	Digital power meter	2022/12/26	2023/12/25
DLF003	Temperature & Humidity Datalogger	2022/12/26	2023/12/25

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