

Photometric Test Report

Relevant Standards

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

Prepared For

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Test Date

2021/11/30

Issue Date

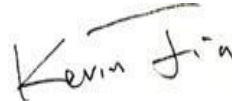
2021/12/3

Prepared By



Wangzun Zhu

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		14203
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	151.9
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		93.5
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	5.47%
		20.00%	277V	12.23%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.998
		0.9	277V	0.900
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3985±275	3902
		4 step	3985±154	
Minimum CRI (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥70		84
Minimum R9 (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥-40		11
Minimum Rf (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥70		85
Minimum Rg (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥89		96
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%		0.68%
Input Voltage (V)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		120
(Goniophotometer - Section 4.2)		Non-Worst Case		277
Input Current (A)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		0.780
(Goniophotometer - Section 4.2)		Non-Worst Case		0.369
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		93.5
(Goniophotometer - Section 4.2)		Non-Worst Case		91.9

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/11/30	ALEDM5TN	M1
2	Goniophotometer Test	2021/11/30	ALEDM5TN	M1
3	THD and PF Test	2021/11/30	ALEDM5TN	M1

Remark(If any)

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- 2、 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.

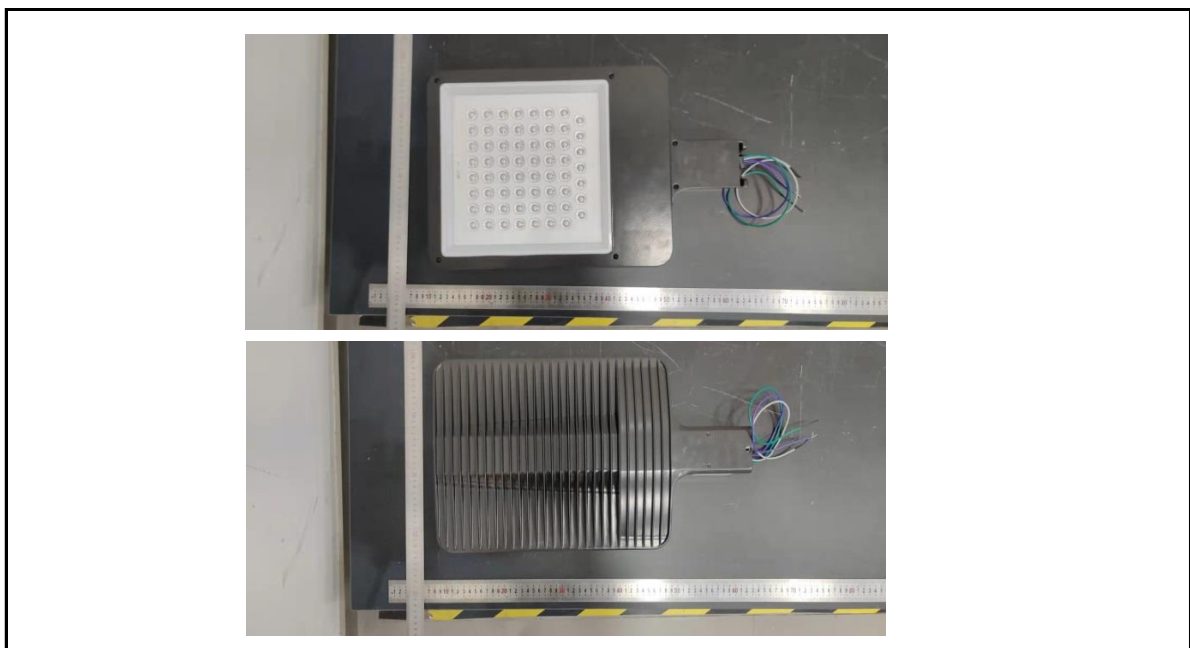
3.0 Production Description

Luminaire Description: ALEDM5TN

Description: 90W/12,000 lm @ 4000K

Electrical Specification: 120V-277V,50/60HZ

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	ALEDM5TN	Sample ID.	M1
Operate 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 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 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
120.07	60	0.770	92.3	0.998
276.99	60	0.364	90.7	0.900

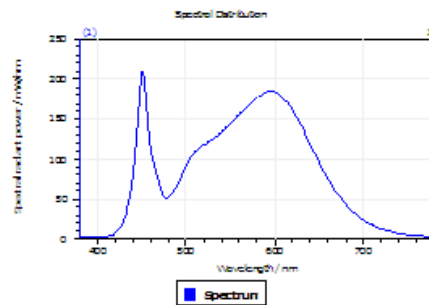
Test Result

CCT (K)	CRI	R9	Duv
3902	84	11	0.00015

Rf	Rg	IES Rcs,h1
85	96	-12%

4.1 Integrating Sphere Test

Results



Spectral values

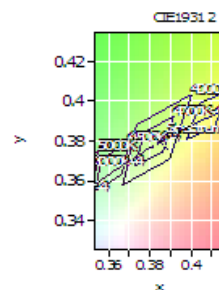
DominantWavelength	579.36 nm
Purity	0.295
PeakWavelength	450.91 nm
Radiant Power	31.96 W
Width50%	18.62 nm

Color Coordinates

Correlated Color Temperatur 3902 K

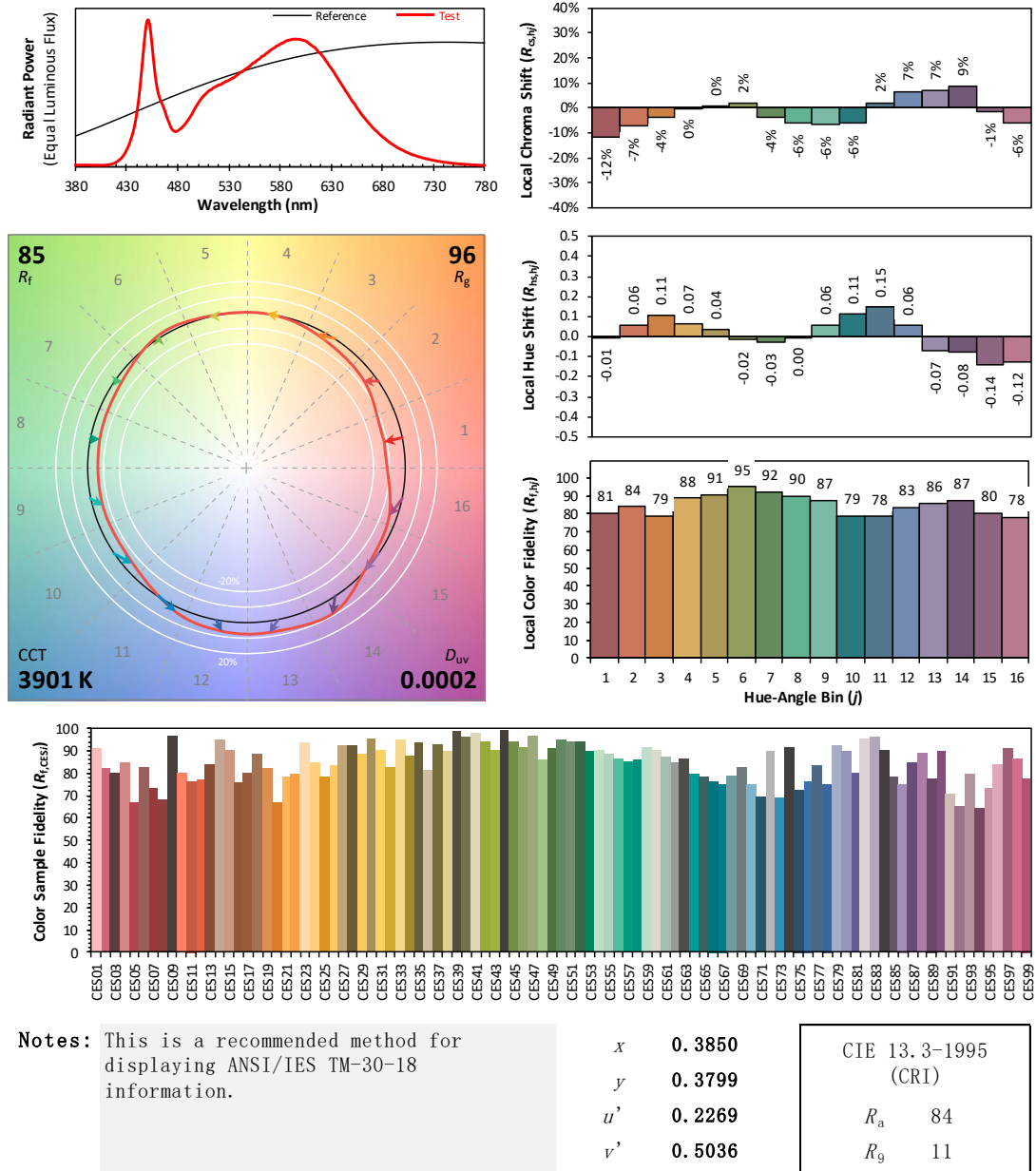
x: 0.3850 u: 0.2269 u': 0.2269
y: 0.3799 v: 0.3357 v': 0.5036

ResultsCRICRI01	81.7	ResultsCRICRI09	10.6
ResultsCRICRI02	89.9	ResultsCRICRI10	76.4
ResultsCRICRI03	95.5	ResultsCRICRI11	81.6
ResultsCRICRI04	82.5	ResultsCRICRI12	64.1
ResultsCRICRI05	82.3	ResultsCRICRI13	83.7
ResultsCRICRI06	86.4	ResultsCRICRI14	97.8
ResultsCRICRI07	85.8	ResultsCRICRI15	75.5
ResultsCRICRI08	64.7	ResultsCRICRI16	73.2
ResultsCRI	83.6		



PlanckDistance 1.5E-004

4.1 Integrating Sphere Test



Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.0

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	ALEDM5TN	Sample ID.	M1
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	120.11	60	0.780	93.5	0.998
NON-WORST CASE	277.01	60	0.369	91.9	0.900

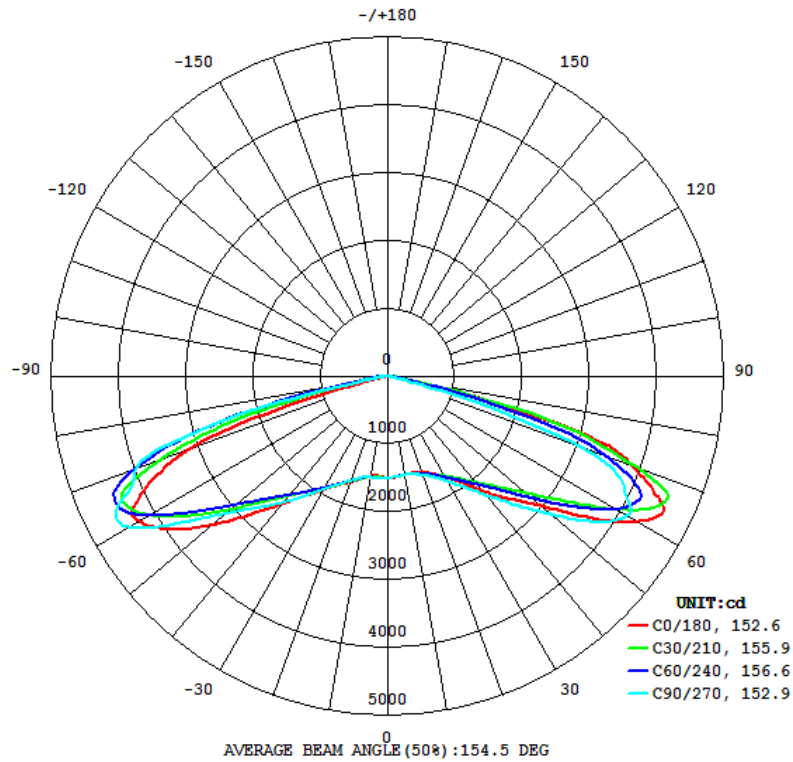
Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
14203	160.2	159.8	152.6	152.9	151.9

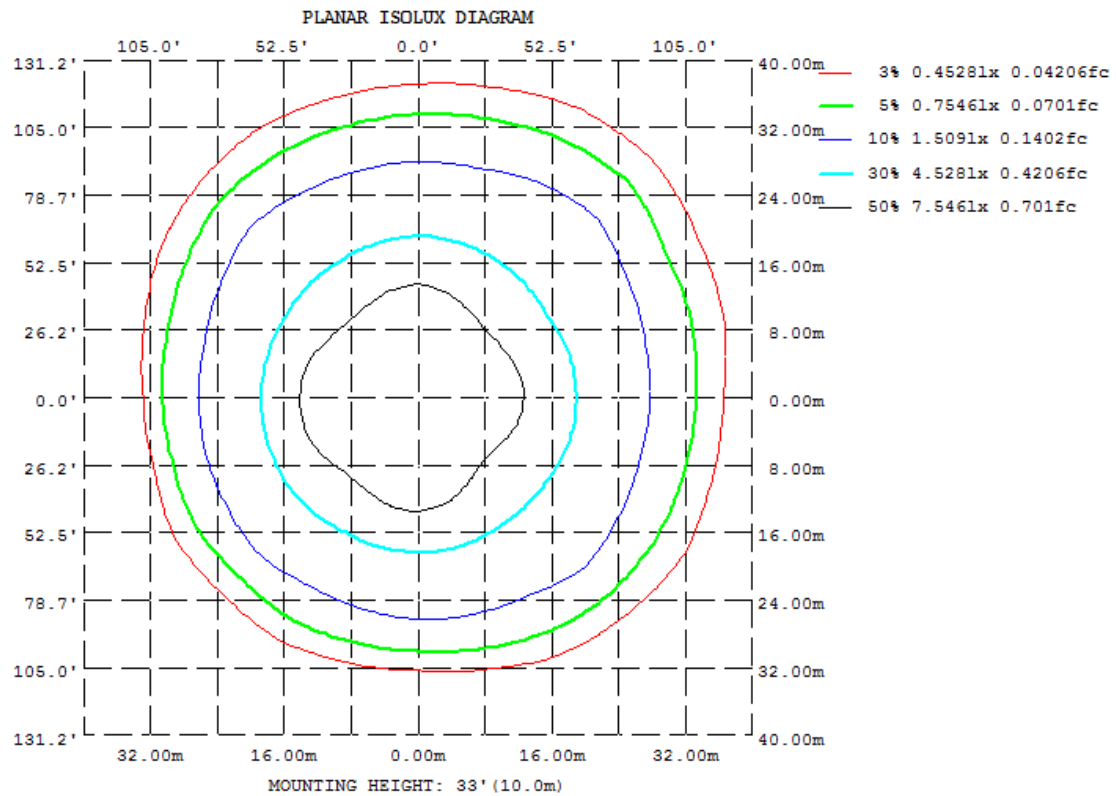
Zonal Lumen Requirement (0° - 90°)	Zonal Lumen Requirement (80° - 90°)	BUG rating
100.00%	0.68%	B4-U0-G2

4.2 Goniophotometer Test

Light Distrubtion Curve



Isolux Plot



4.2 Goniophotometer Test

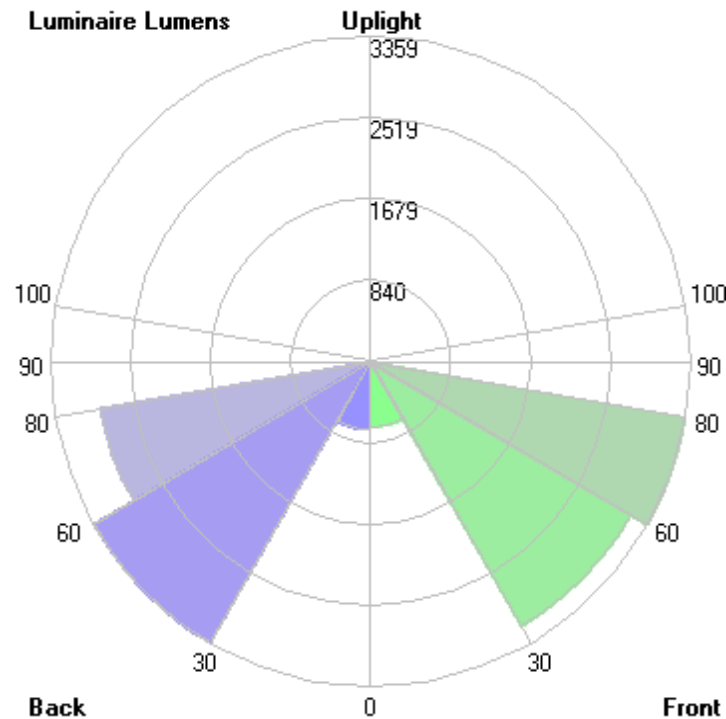
Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	1481	1481	1481	1502	1497	1515	1519	1522
20	1519	1543	1558	1632	1669	1654	1640	1605
30	1716	1697	1800	1862	1940	1892	1928	1827
40	2218	2004	2294	2227	2456	2238	2431	2157
50	2979	2624	3173	2938	3412	2906	3153	2707
60	4289	3853	4107	4064	4276	4080	4451	3917
70	3871	4261	3079	3112	3146	4280	3981	5129
80	200.8	374.2	77.47	115.6	117.1	399.7	267.8	929.4
90	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0
DEG	LUMINOUS INTENSITY:cd							

	Zonal (lm)		Total (lm)	Percent
0-10	143.37	0 - 10	143.37	1.01%
10-20	437.83	0 - 20	581.20	4.09%
20-30	793.16	0 - 30	1374.36	9.68%
30-40	1279.40	0 - 40	2653.76	18.68%
40-50	2021.80	0 - 50	4675.56	32.92%
50-60	3200.85	0 - 60	7876.41	55.46%
60-70	4140.33	0 - 70	12016.74	84.61%
70-80	2089.22	0 - 80	14105.96	99.32%
80-90	96.81	0 - 90	14202.77	100.00%
90-100	0.00	0 - 100	14202.77	100.00%
100-110	0.00	0 - 110	14202.77	100.00%
110-120	0.00	0 - 120	14202.77	100.00%
120-130	0.00	0 - 130	14202.77	100.00%
130-140	0.00	0 - 140	14202.77	100.00%
140-150	0.00	0 - 150	14202.77	100.00%
150-160	0.00	0 - 160	14202.77	100.00%
160-170	0.00	0 - 170	14202.77	100.00%
170-180	0.00	0 - 180	14202.77	100.00%

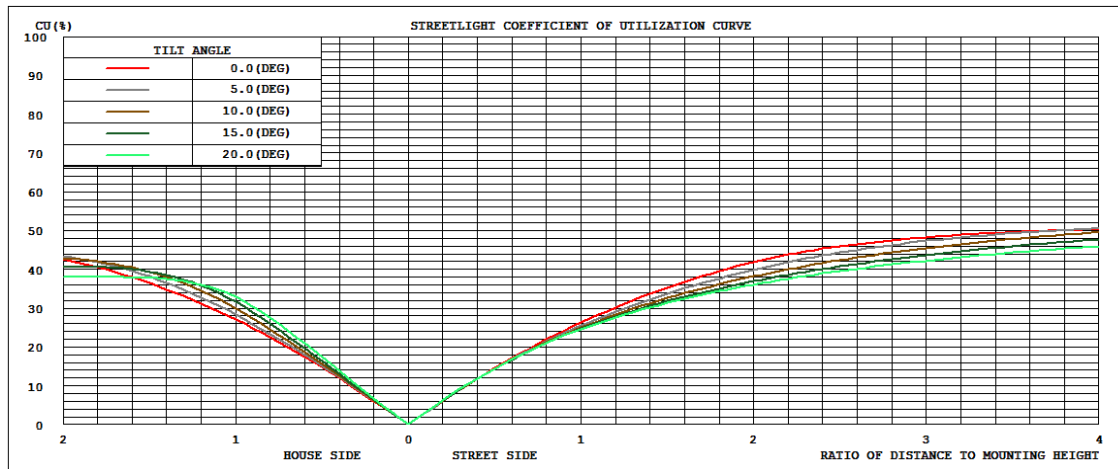
4.2 Goniophotometer Test

LCS/BUG

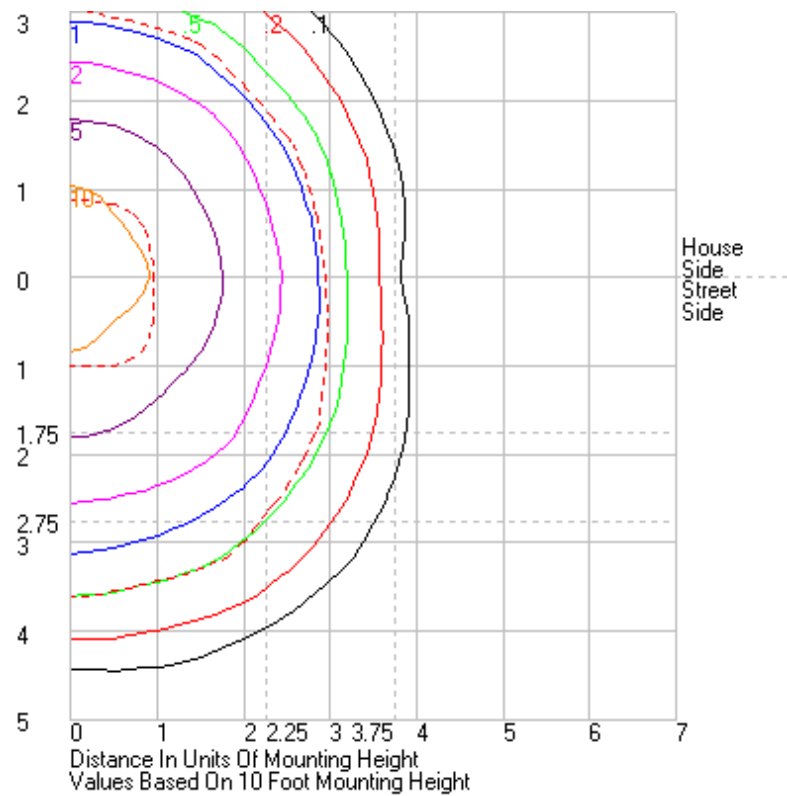


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	672.6	N.A.	4.7
FM - Front-Medium (30-60)	3149.2	N.A.	22.2
FH - Front-High (60-80)	3358.9	N.A.	23.7
FVH - Front-Very High (80-90)	60.0	N.A.	0.4
BL - Back-Low (0-30)	701.7	N.A.	4.9
BM - Back-Medium (30-60)	3352.8	N.A.	23.6
BH - Back-High (60-80)	2870.6	N.A.	20.2
BVH - Back-Very High (80-90)	36.8	N.A.	0.3
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	14202.6	N.A.	100.0
BUG Rating	B4-U0-G2		

Coefficients of Utilization



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	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16	1509.16
1	1506.71	1506.93	1506.93	1507.16	1507.34	1507.13	1506.91	1507.15	1507.15	1507.42	1507.6	1508.48	1505.69	1507.3	1508.68	1510.04	1511.43	1512.53	1513.25	1513.46	1513.71	1513.2	1512.5	1512.28	1506.71
2	1504.2	1503.83	1503.99	1504.68	1504.46	1504.28	1504.26	1504.47	1504.86	1505.35	1505.53	1506.24	1504.31	1506.37	1508.67	1510.77	1513.21	1515.24	1516.68	1516.85	1515.74	1514.36	1512.5	1510.87	1504.2
3	1503.49	1502.59	1501.93	1500.57	1499.94	1499.44	1500.16	1500.63	1501.71	1502.91	1501.73	1501.13	1499.98	1503	1507.04	1512.02	1515.24	1517.51	1519.77	1519.54	1517.73	1514.8	1511.87	1509.6	1503.49
4	1504.17	1503.05	1501.47	1497.69	1496.06	1495	1496.29	1497.18	1498.57	1498.59	1497.73	1496.28	1495.12	1498.29	1503.64	1510.42	1516.81	1519.31	1522.24	1521.33	1518.86	1516.4	1513.5	1511.62	1504.17
5	1501.33	1501.07	1499.27	1495.43	1491.79	1489.89	1491.99	1493.79	1495.6	1495.46	1494.27	1491.99	1489.87	1494.17	1500.32	1508.44	1517.03	1520.88	1524.29	1523.63	1520.9	1518.85	1515.22	1510.88	1501.33
6	1498.32	1497.25	1495.4	1492.48	1486.92	1484.87	1488.66	1490.67	1492.93	1493.36	1491.99	1489.56	1486.55	1490.59	1498.28	1507.33	1516.61	1522.24	1525.61	1525.4	1522.94	1521.1	1514.72	1508.45	1498.32
7	1495.62	1494.75	1490.76	1487.74	1483.43	1481.43	1485.91	1489.74	1492.21	1492.22	1491.52	1489.27	1484.76	1488.83	1498.08	1507.11	1517.28	1522.68	1525.09	1525.12	1524.97	1521.57	1514.17	1507.05	1495.62
8	1490.79	1490.33	1487.54	1484.39	1480.98	1478.07	1483.86	1489.72	1492.87	1492.65	1493.26	1492.33	1485.76	1490	1499.22	1508.03	1517.7	1522.78	1523.08	1522.61	1525.83	1522.24	1513.63	1503.63	1490.79
9	1485.24	1485.13	1483.72	1482.12	1479.38	1475.12	1481.65	1490.17	1495.1	1496.67	1497.96	1497.5	1489.61	1493.89	1502.67	1510.58	1517.72	1522.99	1520.83	1519.71	1523.74	1522.44	1512.5	1499.64	1485.24
10	1481.42	1481.84	1480.06	1481.15	1477.81	1472.84	1480.7	1491.73	1497.77	1502.35	1504.89	1505.52	1496.75	1499.98	1508.19	1514.84	1518.22	1523.2	1519.5	1517.24	1521.98	1522	1510.7	1496.22	1481.42
11	1479.16	1481.37	1478.9	1481.82	1476.86	1473.21	1482.02	1494.88	1501.9	1509.57	1514.76	1516.03	1506.52	1510.11	1516.84	1520.62	1521.01	1525.63	1518.85	1516.58	1521.1	1521.54	1510.27	1494.46	1479.16
12	1478.67	1483.11	1481.54	1483.35	1478.18	1475.47	1485.42	1499.06	1508.2	1519.05	1527.24	1528.86	1519.52	1523.15	1527.94	1528.12	1526.29	1530.19	1521.44	1517.54	1522.02	1521.82	1511.69	1494.71	1478.67
13	1477.11	1485.16	1486.91	1486.23	1481.31	1479.3	1489.57	1504.46	1516.14	1530.33	1541.38	1542.21	1533.97	1537.79	1540.94	1537.54	1533.74	1538.29	1527.95	1522.12	1524.34	1523.9	1515.3	1495.83	1477.11
14	1476.85	1486.56	1493.37	1492.06	1485.14	1484.89	1494.55	1510.76	1524.9	1543.29	1555.41	1557.06	1550.63	1553.85	1555.57	1548.95	1544.96	1549.36	1538.5	1531.65	1529.75	1527.27	1520.21	1496.5	1476.85
15	1478.66	1490.28	1499.26	1498.97	1490.48	1491.74	1501.61	1517.7	1534.27	1556.96	1570.21	1572.88	1569.19	1571.33	1571.04	1562.86	1559.49	1562.11	1549.87	1543.52	1538.59	1533.06	1524.81	1498.78	1478.66
16	1483.59	1495	1506.52	1507.74	1495.81	1500.3	1510.45	1526	1544.39	1571.74	1586	1589.43	1588.44	1589.81	1587.49	1578.71	1576.14	1574.75	1562.78	1555.92	1552.09	1541.72	1529.7	1504.06	1483.59
17	1489.88	1500.74	1514.9	1516.65	1502.7	1509.69	1521.76	1536.38	1556.28	1585.5	1602.51	1606.56	1608.61	1608.58	1604.5	1596.9	1591.95	1590.31	1580.04	1571.57	1566.14	1553.66	1537.19	1510.89	1489.88
18	1497.17	1507.98	1523.88	1524.87	1511.76	1521.28	1533.71	1548.76	1569.36	1599.85	1619.83	1624.47	1627.55	1627.14	1621.23	1614.92	1608.91	1608.93	1600.64	1590.48	1581.62	1568.13	1546.68	1519.58	1497.17
19	1506.53	1516.08	1533.2	1533.48	1522.57	1531.81	1544.7	1560.85	1585.32	1614.6	1638.8	1643.67	1647.65	1646.47	1638.93	1634.84	1626.87	1626.72	1620.02	1611.5	1599.12	1585.55	1557.91	1529.25	1506.53
20	1518.57	1525.81	1542.77	1543.18	1535.28	1542.51	1557.62	1574.72	1603.29	1632.09	1658.72	1664.79	1669.23	1667.44	1657.48	1654.28	1646.86	1644.73	1639.93	1630.48	1619.82	1604.53	1569.4	1540.91	1518.57
21	1532.78	1537.73	1553.27	1553.97	1548.68	1554.71	1571.37	1589.86	1621.71	1651.05	1680.15	1686.26	1691.17	1689.21	1678.37	1673.83	1666.43	1663.45	1661.61	1650.67	1644.48	1623.45	1582.62	1554.59	1532.78
22	1547.67	1551.73	1564.18	1565.27	1562.85	1568.89	1588.76	1606.5	1641.18	1670.75	1703.35	1707.99	1712.02	1710.83	1700.48	1693.6	1685.58	1684.25	1684.76	1673.07	1666.52	1642.46	1597.25	1568.97	1547.67
23	1561.58	1566.62	1577.87	1578.62	1579.15	1585.92	1608.17	1626.12	1661.44	1692.41	1726.1	1729.44	1733.39	1732.81	1724.25	1715.23	1706.32	1707.33	1710.25	1697.81	1690.4	1662.57	1614.36	1584.46	1561.58
24	1576.98	1580.79	1593.11	1592.5	1596.16	1603.88	1627.47	1646.7	1682.58	1715.22	1748.37	1752.15	1755.46	1754.69	1748.91	1738.07	1729.26	1731.31	1736.87	1724.66	1715.9	1684.22	1634.61	1599.09	1576.98
25	1595.94	1598.78	1609.96	1606.13	1615.33	1624.54	1652.34	1670.41	1706.23	1739.01	1772.43	1776.93	1779.44	1778.14	1774.2	1761.73	1754.63	1757.8	1763.69	1753.01	1741.94	1705.42	1656.4	1615.69	1595.94
26	1616.54	1620.37	1624.83	1619.86	1635.44	1647.72	1676.72	1696.07	1730.97	1763.47	1796.08	1804.1	1805.43	1802.45	1800.58	1785.41	1781.24	1784.22	1791.77	1780.78	1770	1726.66	1678.77	1635.2	1616.54
27	1637.37	1643.4	1640.61	1635.65	1656.93	1671.96	1705.01	1722.34	1755.73	1788.04	1819.79	1833.67	1836.32	1829.96	1825.6	1810.23	1809.38	1812.22	1822.93	1810.29	1800.64	1748.95	1703.09	1657.55	1637.37
28	1661.49	1668.83	1660.34	1654.08	1681.47	1701.18	1733.95	1751.96	1783.2	1813.17	1846.35	1866.17	1867.97	1859.53	1850.91	1836.53	1837.95	1843.62	1854.49	1842.32	1832.19	1772.79	1728.38	1681	1661.49
29	1686.6	1694.64	1682.07	1674.89	1705.32	1729.17	1763.5	1782.29	1810.63	1837.81	1873.4	1902.18	1902.86	1891.42	1878.7	1864.09	1865.85	1875.4	1889.29	1875.28	1860.95	1799.79	1754.61	1705.55	1686.6
30	1715.98	1723.51	1705.26	1696.88	1731.53	1761.36	1799.55	1815.63	1840.23	1861.77	1902.69	1938.78	1939.87	1926.29	1908.4	1892.46	1897.5	1910.57	1927.79	1912.49	1890.45	1827.22	1782.86	1732.54	1715.98
31	1748.54	1754.96	1729.87	1717.91	1759.35	1795.97	1833.68	1851.42	1870.71	1887.51	1934.76	1977.97	1978.9	1962.13	1939.64	1921.82	1929.98	1948.79	1968.69	1951.28	1922.26	1853.97	1812.53	1763.18	1748.54
32	1784.79	1790.78	1757.71	1739.46	1787.12	1830.72	1872.53	1887.54	1902.48	1915.03	1967.29	2017.09	2020.62	2000.49	1972.25	1949.48	1961.94	1987.98	2012.11	1993.08	1954.54	1883.27	1843.25	1796.25	1784.79
33	1825.15	1829.19	1787.11	1765.18	1817.93	1869.77	1914.15	1929.71	1936.81	1946.32	2003.42	2060.86	2065.83	2041.54	2006.86	1977.35	1997.28	2030.78	2058.05	2037.36	1986.34	1914.34	1876.39	1833.68	1825.15
34	1868.33	1870.13	1817.38	1792.55	1847.94	1910.58	1956.05	1971.86	1970.99	1977.44	2040.2	2105.43	2112.48	2086.04	2042.45	2007.57	2034.12	2074.72	2105.61	2083.09	2019.54	1944.19	1910.35	1873.12	1868.33
35	1916.42	1915.59	1849.66	1822.89	1881.93	1955.35	2004.04	2017.42	2008.48	2012.52	2079.22	2153.92	2161.52	2133.96	2079.51	2040.61	2072.5	2121.47	2154.74	2132.07	2055.65	1972.68	1947.04	1916.89	1916.42
36	1967.79	1963.59	1884.95	1852.74	1918.56	2004.02	2052.05	2068.01	2047.28	2048.81	2121.72	2204.76	2212.85	2185.1	2119.97	2074.3	2111.83	2170.24	2206.7	2181.59	2096.13	2005.31	1985.3	1963.58	1967.79
37	2025.25	2014.44	1923.19	1886.82	1956.56	2054.33	2106.49	2117.74	2086.86	2088.6	2165.98	2258.32	2267.69	2239.38	2163.91	2110.64	2153.95	2220.68	2260.71	2234.02	2137	2041.54	2025.05	2016.68	2025.25
38	2087.58	2070.08	1964.32	1924.85	2000.58	2113.31	2166.19	2175.09	2129.53	2132.86	2214.27	2315.7	2326.03	2296.65	221										

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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.	ALEDM5TN	Sample ID.	M1
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
120.07	60	0.770	92.3	0.998	5.47%
276.99	60	0.364	90.7	0.900	12.23%

5.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2020/12/26	2021/12/25
DLF108	Auxiliary Lamp	2020/12/26	2021/12/25
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2020/12/26	2021/12/25
DLF116	AC Power Source	2020/12/26	2021/12/25
DLF113	Power Meter	2020/12/26	2021/12/25
DLF112	Temperature Recorder	2020/12/26	2021/12/25
DLF114	Temperature & Humidity Datalogger	2020/12/26	2021/12/25
DLF101	Goniophotometer	2020/12/26	2021/12/25
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2020/12/26	2021/12/25
DLF104	AC Power Source	2020/12/26	2021/12/25
DLF507	DC Power Source	2020/12/26	2021/12/25
DLF102	Power Meter	2020/12/26	2021/12/25
DLF111	Temperature & Humidity Datalogger	2020/12/26	2021/12/25
DLF119	Power Meter	2020/12/26	2021/12/25
DLF031	Temperature data logger	2020/12/26	2021/12/25
DLF022	Digital power meter	2020/12/26	2021/12/25
DLF003	Temperature & Humidity Datalogger	2020/12/26	2021/12/25

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