

# Photometric Test Report

## Relevant Standards

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

## Prepared For

**RAB Lighting Inc.**

Room 6A33, No.1388, Wuzhong road, Shanghai, China

Xiao Xiang, 15921313292, Gary.Xiao@rabweb.com

## Prepared By

**Deliver Co., Ltd.**

Block 11, 78 Keling Road, SSTP, Suzhou, China

0512-66801950, kevin.jia@szdeliver.com

## Project Number

**DLF2301106**

## Report Number

**DLF2301106-30a**

## Test Date

**2023/1/13**

## Issue Date

**2023/1/16**

## 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		13754
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	149.2
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		92.2
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%		16.72%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9		0.901
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3045±175	2928
		4 step	3045±100	
Minimum CRI (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥70		82
Minimum R9 (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥-40		4
Minimum Rf (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥70		83
Minimum Rg (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥89		97
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%		0.31%
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		0.213
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		92.2

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2023/1/13	ALEDM5TY/480	AD1
2	Goniophotometer Test	2023/1/13	ALEDM5TY/480	AD1
3	THD and PF Test	2023/1/13	ALEDM5TY/480	AD1

### 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.

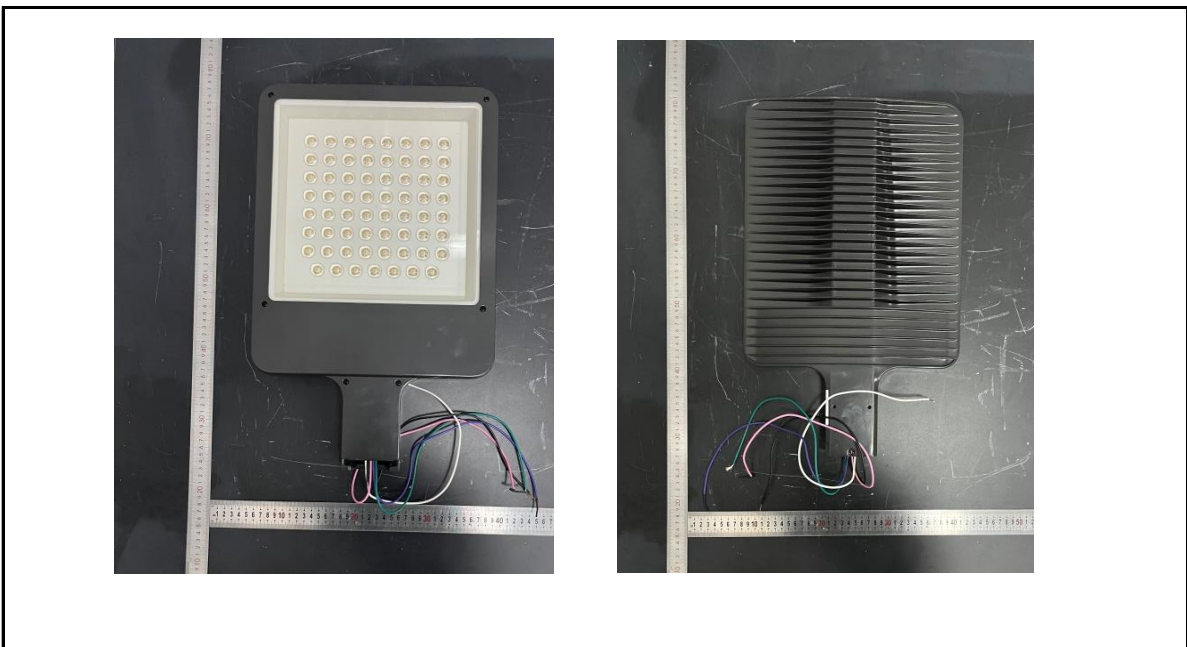
## 3.0 Production Description

**Luminaire Description:** ALEDM5TY/480

**Description:** 90W @ 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.	ALEDM5TY/480	Sample ID.	AD1
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  $\pm 0.2$  percent under load.

The sample was measured using  $4\pi$  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
479.97	60	0.217	93.9	0.901

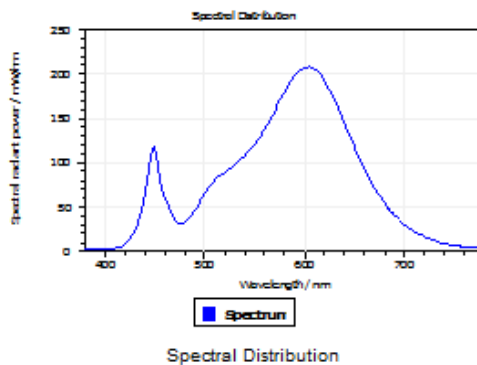
#### Test Result

CCT (K)	CRI	R9	Duv
2928	82	4	0.0024

Rf	Rg	IES Rcs,h1
83	97	-12%

## 4.1 Integrating Sphere Test

### Results

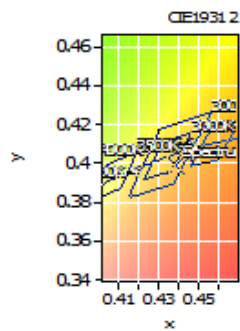


#### Spectral values

DominantWavelength 584.01 nm  
Purity 0.513  
PeakWavelength 603.30 nm  
Radiant Power 30.34 W  
Width50%:

#### Color Coordinates

Correlated Color Temperat 2928 K  
x: 0.4385 u: 0.2540 u': 0.2540  
y: 0.3986 v: 0.3463 v': 0.5194  
CRI01 80.0 CRI09 3.7  
CRI02 90.2 CRI10 78.2  
CRI03 96.2 CRI11 79.6  
CRI04 80.1 CRI12 73.7  
CRI05 80.7 CRI13 82.2  
CRI06 88.2 CRI14 98.6  
CRI07 81.5 CRI15 72.9  
CRI08 57.3 CRI16 70.9  
ResultsCRI 81.8



PlanckDistance 2.4E-003

## 4.1 Integrating Sphere Test

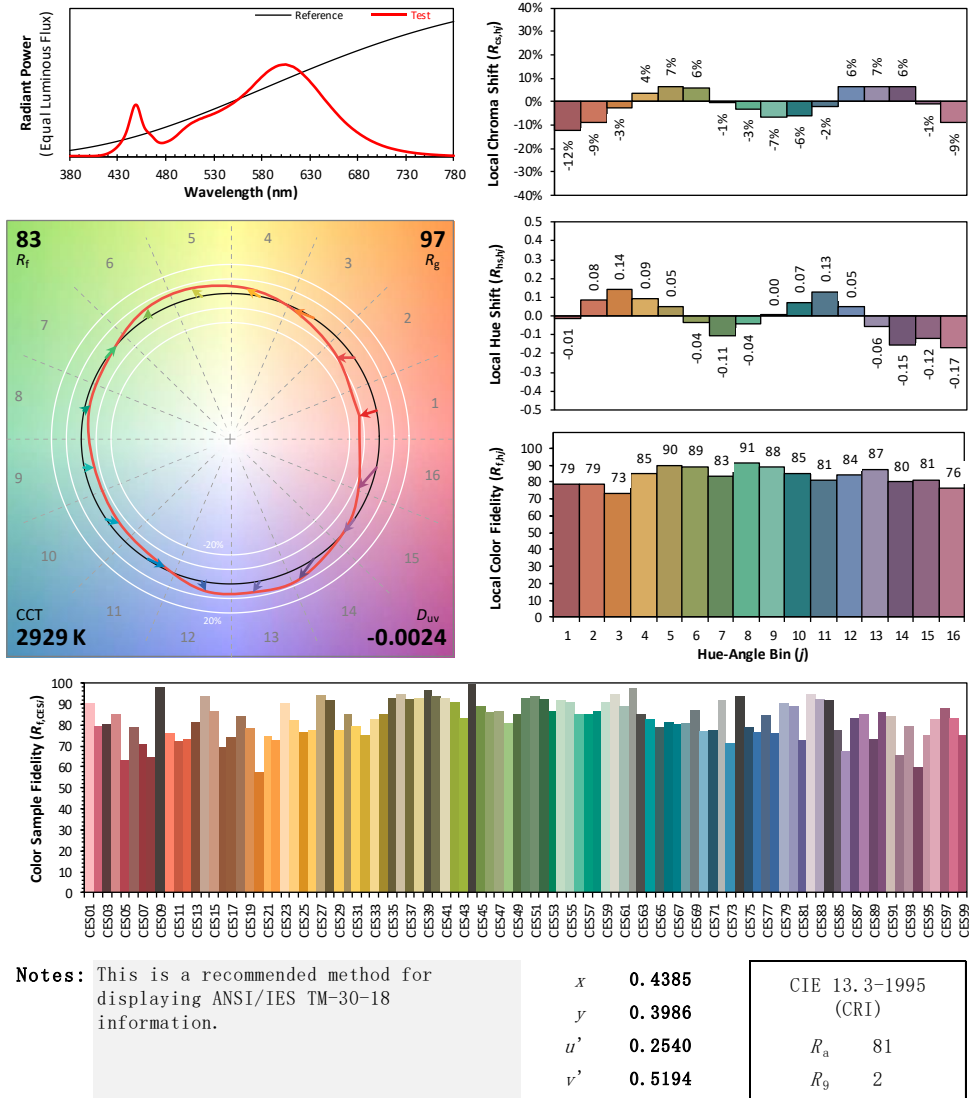
### IES TM-30-18 Color Rendition Report

Source: DLF2301106-30a

Manufacturer: RAB Lighting Inc.

Date: 2023/1/13

Model: ALEDM5TY/480



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.	ALEDM5TY/480	Sample ID.	AD1
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  $\pm 0.2$  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  $0.5^{\circ}$  vertical intervals and  $10^{\circ}$  horizontal intervals.

#### Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WORST CASE	480.01	60	0.213	92.2	0.901

#### Test Result

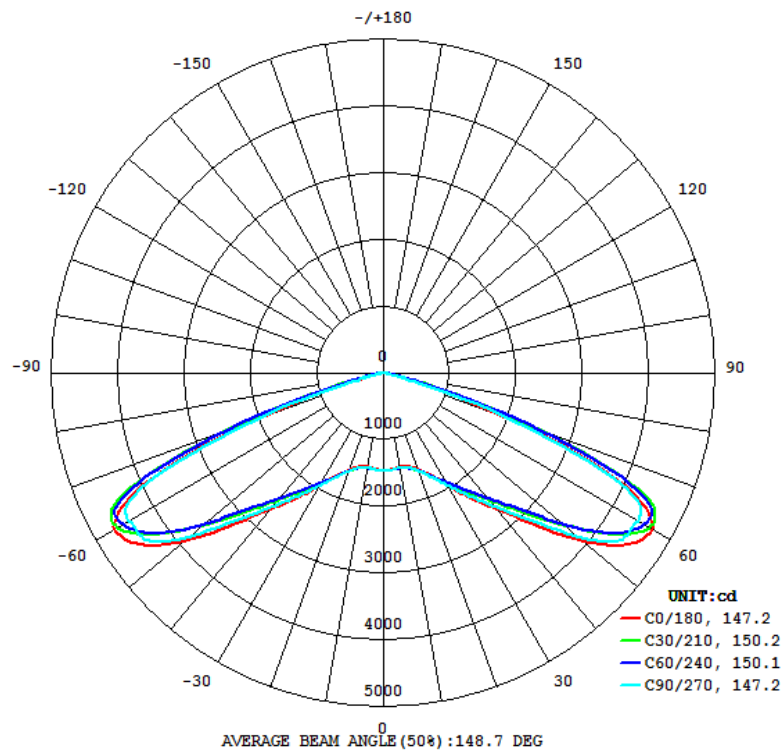
Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
13754	154.8	153.8	147.2	147.2	149.2

Zonal Lumen Requirement ( $0^{\circ}$ - $90^{\circ}$ )	Zonal Lumen Requirement ( $80^{\circ}$ - $90^{\circ}$ )	BUG rating
100.00%	0.31%	B3-U0-G2

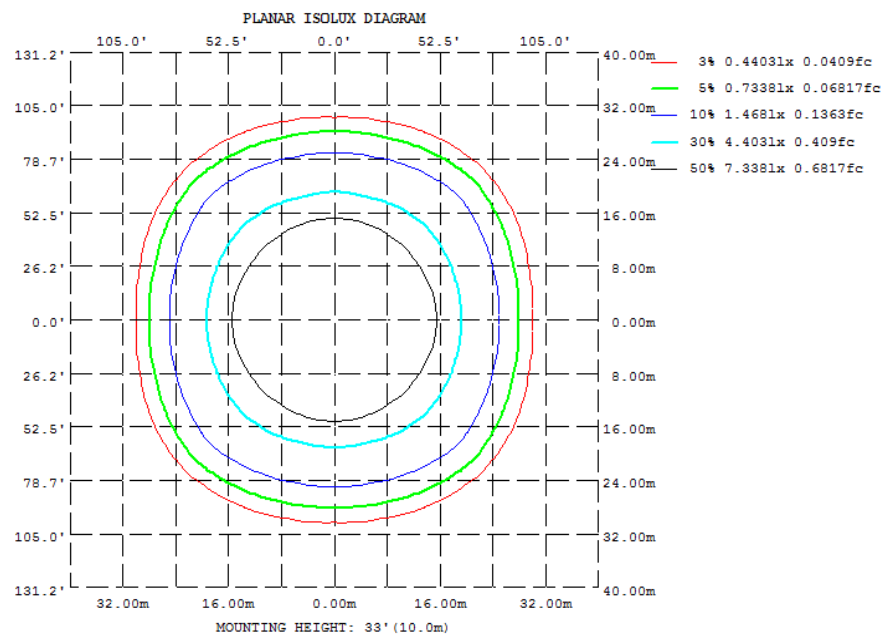


## 4.2 Goniophotometer Test

### Light Distrubtion Curve



### Isolux Plot





## 4.2 Goniophotometer Test

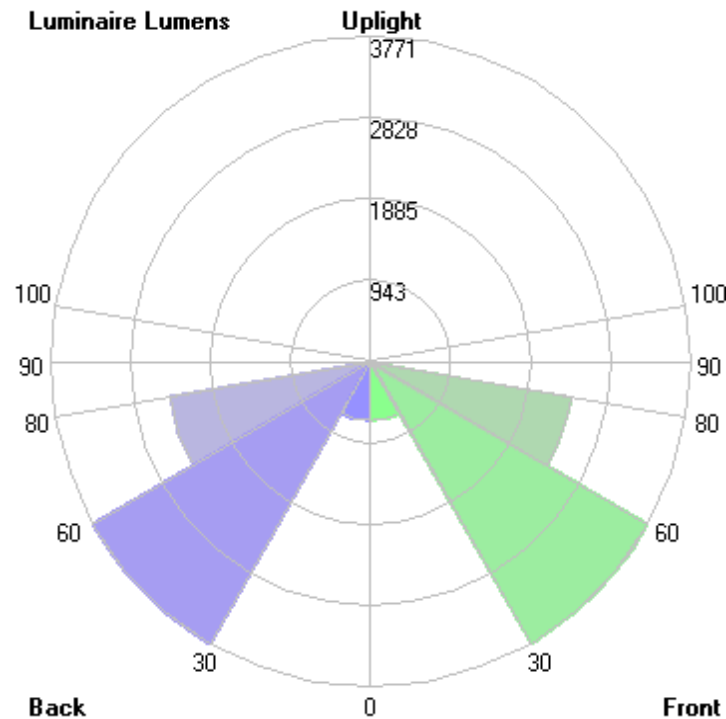
### Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	1437	1461	1448	1461	1437	1461	1448	1461
20	1548	1573	1569	1573	1548	1573	1569	1573
30	1943	1877	1953	1877	1943	1877	1953	1877
40	2656	2407	2612	2407	2656	2407	2612	2407
50	3903	3413	3805	3413	3903	3413	3805	3413
60	4686	4741	4428	4741	4686	4741	4428	4741
70	2035	2959	2083	2959	2035	2959	2083	2959
80	87.81	137.1	78.17	137.1	87.81	137.1	78.17	137.1
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	139.07	0 - 10	139.07	1.01%
10-20	423.46	0 - 20	562.53	4.09%
20-30	800.63	0 - 30	1363.16	9.91%
30-40	1390.88	0 - 40	2754.04	20.02%
40-50	2356.53	0 - 50	5110.57	37.16%
50-60	3794.28	0 - 60	8904.85	64.74%
60-70	3897.19	0 - 70	12802.04	93.08%
70-80	909.55	0 - 80	13711.59	99.69%
80-90	42.68	0 - 90	13754.27	100.00%
90-100	0.00	0 - 100	13754.27	100.00%
100-110	0.00	0 - 110	13754.27	100.00%
110-120	0.00	0 - 120	13754.27	100.00%
120-130	0.00	0 - 130	13754.27	100.00%
130-140	0.00	0 - 140	13754.27	100.00%
140-150	0.00	0 - 150	13754.27	100.00%
150-160	0.00	0 - 160	13754.27	100.00%
160-170	0.00	0 - 170	13754.27	100.00%
170-180	0.00	0 - 180	13754.27	100.00%

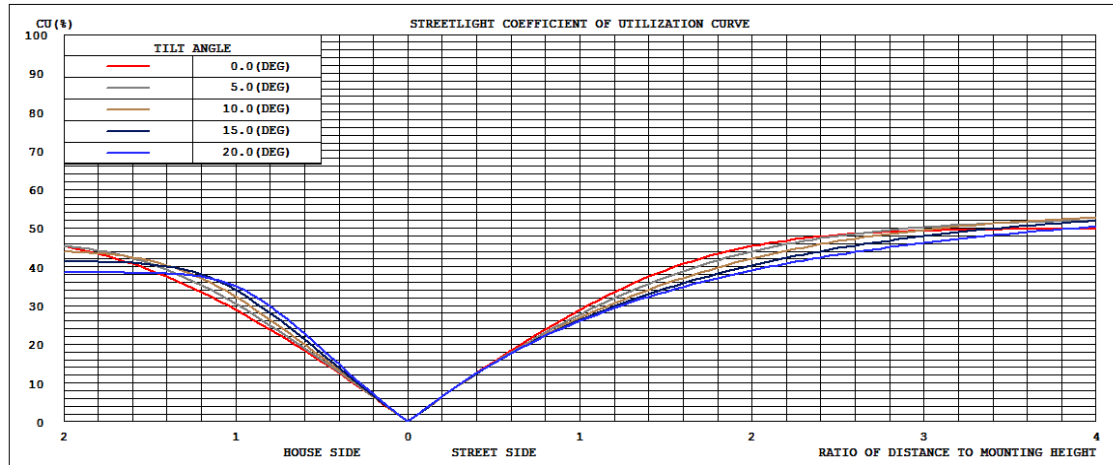
## 4.2 Goniophotometer Test

LCS/BUG

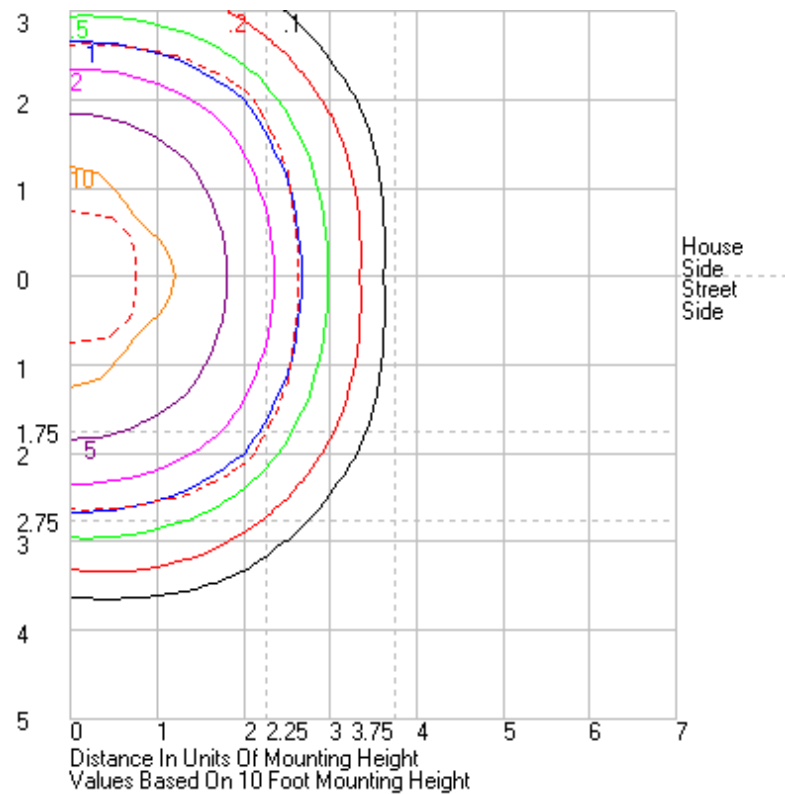


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	681.6	N.A.	5.0
FM - Front-Medium (30-60)	3770.8	N.A.	27.4
FH - Front-High (60-80)	2403.4	N.A.	17.5
FVH - Front-Very High (80-90)	21.3	N.A.	0.2
BL - Back-Low (0-30)	681.6	N.A.	5.0
BM - Back-Medium (30-60)	3770.8	N.A.	27.4
BH - Back-High (60-80)	2403.4	N.A.	17.5
BVH - Back-Very High (80-90)	21.3	N.A.	0.2
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	13754.2	N.A.	100.0
BUG Rating	B3-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	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54	1467.54
1	1467.93	1467.91	1468.39	1468.35	1468.18	1467.72	1467.29	1467.72	1468.18	1468.35	1468.39	1467.91	1467.93	1467.91	1468.39	1468.35	1468.18	1467.72	1467.29	1467.72	1468.18	1468.35	1468.39	1467.91	1467.93
2	1467.69	1467.98	1469.08	1468.95	1468.47	1467.6	1466.91	1467.6	1468.47	1468.95	1469.08	1467.98	1467.69	1467.98	1469.08	1468.95	1468.47	1467.6	1466.91	1467.6	1468.47	1468.95	1469.08	1467.98	1467.69
3	1464.86	1465.63	1466.85	1467.62	1467.73	1466.98	1466.72	1466.98	1467.73	1467.62	1466.85	1465.63	1464.86	1465.63	1466.85	1467.62	1467.73	1466.98	1466.72	1466.98	1467.73	1467.62	1466.85	1465.63	1464.86
4	1460.35	1462.13	1465.04	1465.37	1466.38	1465.2	1464.64	1465.2	1466.38	1465.37	1465.04	1462.13	1460.35	1462.13	1465.04	1465.37	1466.38	1465.2	1464.64	1465.2	1466.38	1465.37	1465.04	1462.13	1460.35
5	1454.23	1456.24	1460.55	1463.84	1463.33	1462.85	1461.9	1462.85	1463.33	1463.84	1460.55	1456.24	1454.23	1456.24	1460.55	1463.84	1463.33	1462.85	1461.9	1462.85	1463.33	1463.84	1460.55	1456.24	1454.23
6	1451.07	1453.44	1456.31	1460.24	1460.8	1460.85	1458.94	1460.85	1460.8	1460.24	1456.31	1453.44	1451.07	1453.44	1456.31	1460.24	1460.8	1460.85	1458.94	1460.85	1460.8	1460.24	1456.31	1453.44	1451.07
7	1448.1	1451.16	1455.57	1457.33	1459.14	1457.92	1453.96	1457.92	1459.14	1457.33	1455.57	1451.16	1448.1	1451.16	1455.57	1457.33	1459.14	1457.92	1453.96	1457.92	1459.14	1457.33	1455.57	1451.16	1448.1
8	1442.51	1446.97	1454.79	1456.6	1457.54	1454.49	1450.32	1454.49	1457.54	1456.6	1454.79	1446.97	1442.51	1446.97	1454.79	1456.6	1457.54	1454.49	1450.32	1454.49	1457.54	1456.6	1454.79	1446.97	1442.51
9	1438.82	1443.57	1453.09	1458.11	1456.52	1453.15	1449.37	1453.15	1456.52	1458.11	1453.09	1443.57	1438.82	1443.57	1453.09	1458.11	1456.52	1453.15	1449.37	1453.15	1456.52	1458.11	1453.09	1443.57	1438.82
10	1436.57	1442.01	1451.33	1460.65	1457.76	1453.42	1448.39	1453.42	1457.76	1460.65	1451.33	1442.01	1436.57	1442.01	1451.33	1460.65	1457.76	1453.42	1448.39	1453.42	1457.76	1460.65	1451.33	1442.01	1436.57
11	1435.5	1441.94	1452.85	1463.14	1460.82	1453.77	1448.02	1453.77	1460.82	1463.14	1452.85	1441.94	1435.5	1441.94	1452.85	1463.14	1460.82	1453.77	1448.02	1453.77	1460.82	1463.14	1452.85	1441.94	1435.5
12	1436.5	1443.34	1456.59	1466.91	1463.97	1455.74	1450.09	1455.74	1463.97	1466.91	1456.59	1443.34	1436.5	1443.34	1456.59	1466.91	1463.97	1455.74	1450.09	1455.74	1463.97	1466.91	1456.59	1443.34	1436.5
13	1440.1	1446.52	1462.5	1472.61	1468.62	1460.12	1455.79	1460.12	1468.62	1472.61	1462.5	1446.52	1440.1	1446.52	1462.5	1472.61	1468.62	1460.12	1455.79	1460.12	1468.62	1472.61	1462.5	1446.52	1440.1
14	1446.98	1453.44	1470.58	1480.36	1475.84	1467.69	1463.36	1467.69	1475.84	1480.36	1470.58	1453.44	1446.98	1453.44	1470.58	1480.36	1475.84	1467.69	1463.36	1467.69	1475.84	1480.36	1470.58	1453.44	1446.98
15	1458.11	1463.82	1480.71	1490.28	1485.17	1477.5	1473.62	1477.5	1485.17	1490.28	1480.71	1463.82	1458.11	1463.82	1480.71	1490.28	1485.17	1477.5	1473.62	1477.5	1485.17	1490.28	1480.71	1463.82	1458.11
16	1472.06	1477.15	1494.9	1502.28	1496.56	1490.63	1487.16	1490.63	1496.56	1502.28	1494.9	1477.15	1472.06	1477.15	1494.9	1502.28	1496.56	1490.63	1487.16	1490.63	1496.56	1502.28	1494.9	1477.15	1472.06
17	1486.38	1491.93	1511.46	1516.8	1509.75	1505.76	1503.8	1505.76	1509.75	1516.8	1511.46	1491.93	1486.38	1491.93	1511.46	1516.8	1509.75	1505.76	1503.8	1505.76	1509.75	1516.8	1511.46	1491.93	1486.38
18	1504.78	1508.56	1529.56	1533.47	1525.07	1523.08	1523.08	1525.07	1523.08	1529.56	1508.56	1504.78	1504.78	1508.56	1529.56	1533.47	1525.07	1523.08	1523.08	1525.07	1529.56	1533.47	1525.07	1523.08	1504.78
19	1524.78	1527.39	1550.13	1551.8	1543.47	1543.1	1544.84	1543.1	1543.47	1550.13	1527.39	1524.78	1524.78	1527.39	1550.13	1551.8	1543.47	1543.1	1544.84	1543.1	1543.47	1550.13	1527.39	1524.78	1524.78
20	1547.91	1548.75	1572.07	1572.63	1564.74	1566.31	1569.03	1566.31	1564.74	1572.63	1572.07	1548.75	1547.91	1548.75	1572.07	1572.63	1564.74	1566.31	1569.03	1566.31	1564.74	1572.63	1572.07	1548.75	1547.91
21	1574.66	1573.44	1595.27	1595.21	1588.9	1591.17	1594.32	1591.17	1588.9	1595.21	1573.44	1574.66	1574.66	1573.44	1595.27	1595.21	1588.9	1591.17	1594.32	1591.17	1588.9	1595.21	1573.44	1574.66	1574.66
22	1601.38	1601.63	1619.91	1619.26	1615.9	1617.89	1621.69	1617.89	1615.9	1619.26	1601.63	1601.38	1601.38	1601.63	1619.91	1619.26	1615.9	1617.89	1621.69	1617.89	1615.9	1619.26	1601.63	1601.38	1601.38
23	1631.04	1632.28	1648.02	1645.3	1644.17	1647.39	1652.9	1647.39	1644.17	1645.3	1648.02	1632.28	1631.04	1632.28	1648.02	1645.3	1644.17	1647.39	1652.9	1647.39	1644.17	1645.3	1648.02	1632.28	1631.04
24	1661.58	1664.55	1677.96	1672.55	1674.83	1680.29	1686.76	1680.29	1674.83	1672.55	1677.96	1664.55	1661.58	1664.55	1677.96	1672.55	1674.83	1680.29	1686.76	1680.29	1674.83	1672.55	1677.96	1664.55	1661.58
25	1696	1699.54	1710.97	1702.06	1706.94	1715.47	1724.39	1715.47	1706.94	1702.06	1710.97	1699.54	1696	1699.54	1710.97	1702.06	1706.94	1715.47	1724.39	1715.47	1706.94	1702.06	1710.97	1699.54	1696
26	1737.94	1738.38	1746.32	1732.86	1741.77	1754.34	1764.42	1754.34	1741.77	1732.86	1746.32	1738.38	1737.94	1738.38	1746.32	1732.86	1741.77	1754.34	1764.42	1754.34	1741.77	1732.86	1746.32	1738.38	1737.94
27	1781.31	1780.82	1783.05	1766.15	1778.57	1795.21	1808.06	1795.21	1778.57	1766.15	1783.05	1780.82	1781.31	1780.82	1783.05	1766.15	1778.57	1795.21	1808.06	1795.21	1778.57	1766.15	1783.05	1780.82	1781.31
28	1832.87	1827.06	1822.58	1801	1817	1838.67	1853.5	1838.67	1817	1801	1822.58	1827.06	1832.87	1827.06	1822.58	1801	1817	1838.67	1853.5	1838.67	1817	1801	1822.58	1827.06	1832.87
29	1887.53	1877.37	1863.72	1838.06	1857.13	1885.55	1901.67	1885.55	1857.13	1838.06	1863.72	1877.37	1887.53	1877.37	1863.72	1838.06	1857.13	1885.55	1901.67	1885.55	1857.13	1838.06	1863.72	1877.37	1887.53
30	1942.93	1932.24	1907.38	1877.14	1898.9	1934.1	1953.06	1934.1	1898.9	1877.14	1907.38	1932.24	1942.93	1932.24	1907.38	1877.14	1898.9	1934.1	1953.06	1934.1	1898.9	1877.14	1907.38	1932.24	1942.93
31	2006.43	1990.06	1953.72	1918.1	1942.19	1986.18	2006.72	1986.18	1942.19	1918.1	1953.72	1990.06	2006.43	1990.06	1953.72	1918.1	1942.19	1986.18	2006.72	1986.18	1942.19	1918.1	1953.72	1990.06	2006.43
32	2069.6	2051.74	2002.66	1962.23	1987.66	2039.96	2063.5	2039.96	1987.66	1962.23	2002.66	2051.74	2069.6	2051.74	2002.66	1962.23	1987.66	2039.96	2063.5	2039.96	1987.66	1962.23	2002.66	2051.74	2069.6
33	2138.78	2117.44	2055.02	2009.06	2035.08	2096.87	2122.57	2096.87	2035.08	2009.06	2055.02	2117.44	2138.78	2117.44	2055.02	2009.06	2035.08	2096.87	2122.57	2096.87	2035.08	2009.06	2055.02	2117.44	2138.78
34	2207.89	2183.02	2109.02	2056.77	2084.98	2156.18	2183.49	2156.18	2084.98	2056.77	2109.02	2183.02	2207.89	2183.02	2109.02	2056.77	2084.98	2156.18	2183.49	2156.18	2084.98	2056.77	2109.02	2183.02	2207.89
35	2277.42	2252.2	2165.33	2108.35	2137.87	2218.46	2246.73	2218.46	2137.87	2108.35	2165.33	2252.2	2277.42	2252.2	2165.33	2108.35	2137.87	2218.46	2246.73	2218.46	2137.87	2108.35	2165.33	2252.2	2277.42
36	2351.52	2323.85	2224.87	2160.94	2193.93	2282.72	2312.48	2282.72	2193.93	2160.94	2224.87	2323.85	2351.52	2323.85	2224.87	2160.94	2193.93	2282.72	2312.48	2282.72	2193.93	2160.94	2224.87	2323.85	2351.52
37	2422.94	2395.98	2286.04	2217.13	2252.31	2350.08	2381.9	2350.08	2252.31	2217.13	2286.04	2395.98	2422.94	2395.98	2286.04	2217.13	2252.31	2350.08	2381.9	2350.08	2252.31	2217.13	2286.04	2395.98	2422.94
38	2497.01	2472.43	2351.72	2276.11	2313.55	2419.12	2454.57	2419.12	2313.55	2276.11	2351.72	2472.43	2497.01	2472.43	2351.72	22									

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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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0



## 4.0 LM-79 Measurement and Test Results

### 4.3 THD and PF Test

Model No.	ALEDM5TY/480	Sample ID.	AD1
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
479.97	60	0.217	93.9	0.901	16.72%

## 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\*\*\*\*\*