

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

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DLF2207109

Report Number

DLF2207109-6a

Test Date

2022/7/29

Issue Date

2022/7/30

Prepared By



Wangzun Zhu

Approved By



Kevin Jia

The results contained in this report pertain only to the tested sample.

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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		10936
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	133.0
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		82.2
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	2.06%
		20.00%	277V	7.78%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.999
		0.9	277V	0.966
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	5029±355	4815
		4 step	5029±220	
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		83
Minimum Rg (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	≥89		95
Minimum IES Rcs,h1 (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	-18%≤IES Rcs,h1≤+23%		-13%
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%		1.78%
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		0.685
(Goniophotometer - Section 4.2)		Non-Worst Case		0.298
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		82.2
(Goniophotometer - Section 4.2)		Non-Worst Case		79.8

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2022/7/29	ALEDS4T	F1
2	Goniophotometer Test	2022/7/29	ALEDS4T	F1
3	THD and PF Test	2022/7/29	ALEDS4T	F1

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.

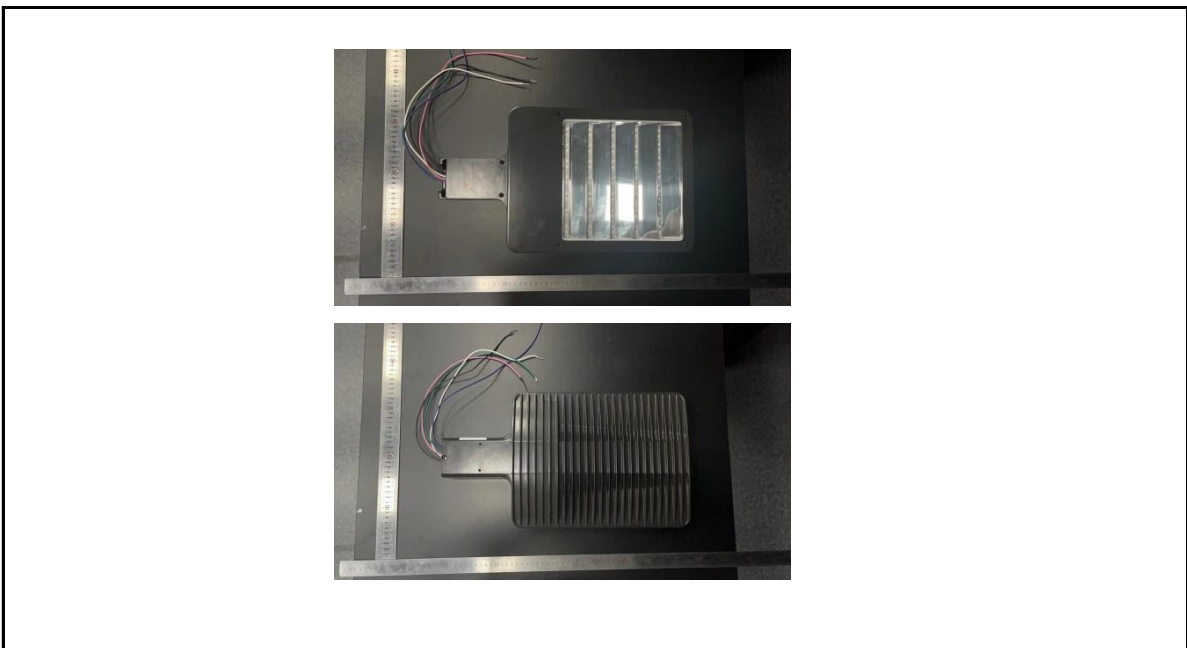
3.0 Production Description

Luminaire Description: ALEDS4T

Description: 80W @ 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.	ALEDS4T	Sample ID.	F1
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
120.06	60	0.684	82.0	0.999
276.99	60	0.298	79.7	0.966

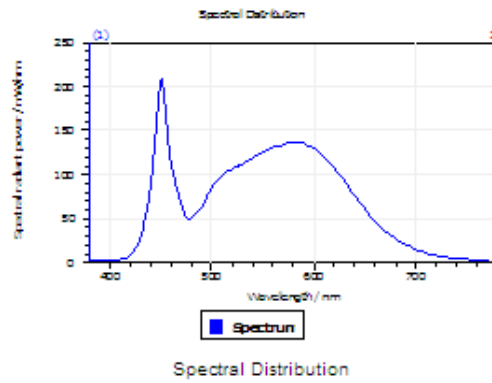
Test Result

CCT (K)	CRI	R9	Duv
4815	81	-1	0.0043

Rf	Rg	IES Rcs,h1
83	95	-13%

4.1 Integrating Sphere Test

Results

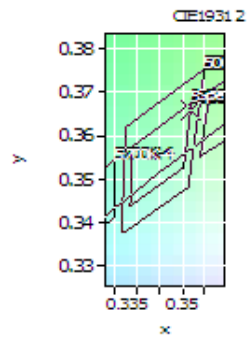


Spectral values

DominantWavelength 571.43 nm
Purity 0.153
PeakWavelength 450.64 nm
Radiant Power 25.88 W
Width50%:

Color Coordinates

Correlated Color Temperat 4815 K
x: 0.3517 u: 0.2105 u': 0.2105
y: 0.3656 v: 0.3282 v': 0.4923
CRI01 78.4 CRI09 -1.0
CRI02 87.1 CRI10 69.8
CRI03 93.7 CRI11 78.4
CRI04 79.9 CRI12 56.6
CRI05 79.0 CRI13 80.5
CRI06 82.1 CRI14 96.7
CRI07 86.8 CRI15 71.5
CRI08 64.0 CRI16 69.2
ResultsCRI 81.4



PlanckDistance 4.3E-003

4.1 Integrating Sphere Test

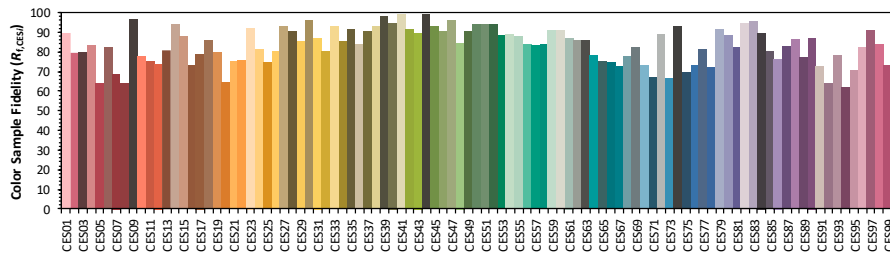
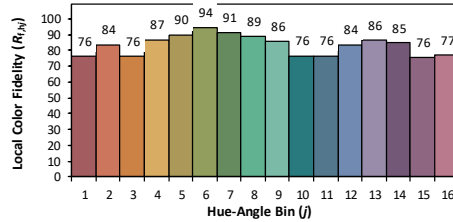
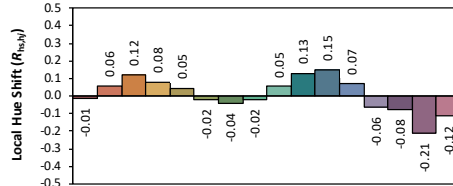
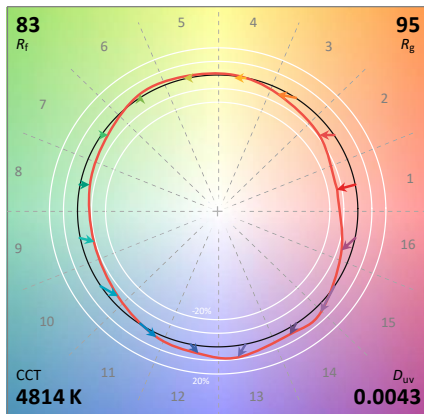
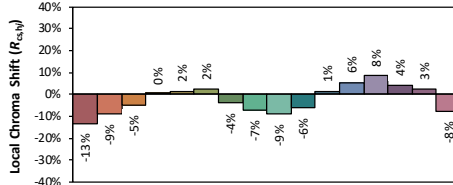
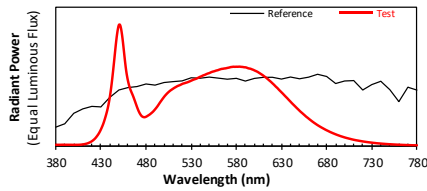
IES TM-30-18 Color Rendition Report

Source: DLF2207109-6a

Manufacturer: RAB Lighting Inc.

Date: 2022/7/29

Model: ALED54T



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3517
 y 0.3656
 u' 0.2105
 v' 0.4923

CIE 13.3-1995
(CRI)
 R_a 81
 R_g -1

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.	ALEDS4T	Sample ID.	F1
Opreate 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 paramters 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	120.04	60	0.685	82.2	0.999
NON-WROST CASE	277.06	60	0.298	79.8	0.965

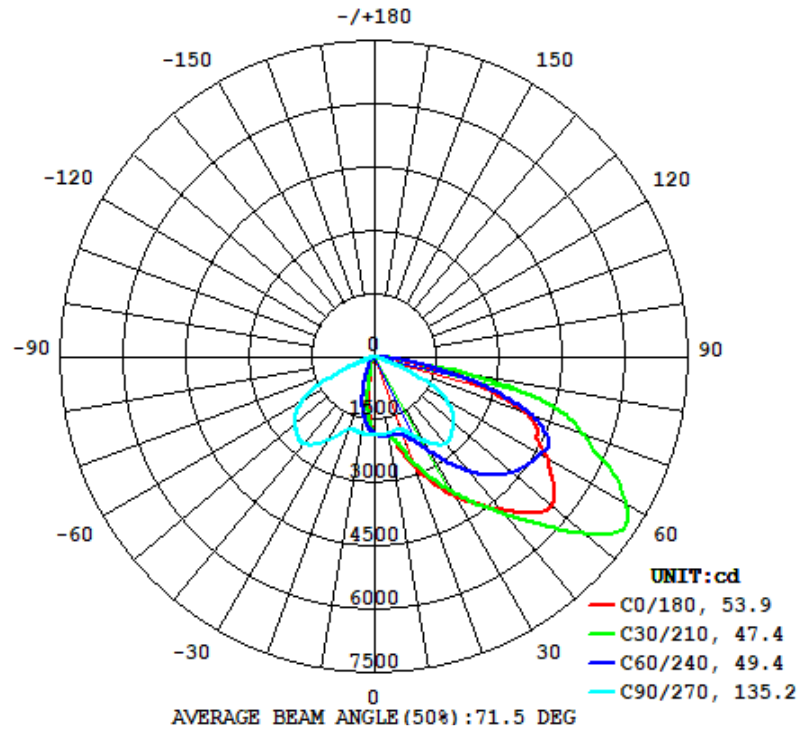
Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
10936	95.2	148.0	53.9	135.2	133.0

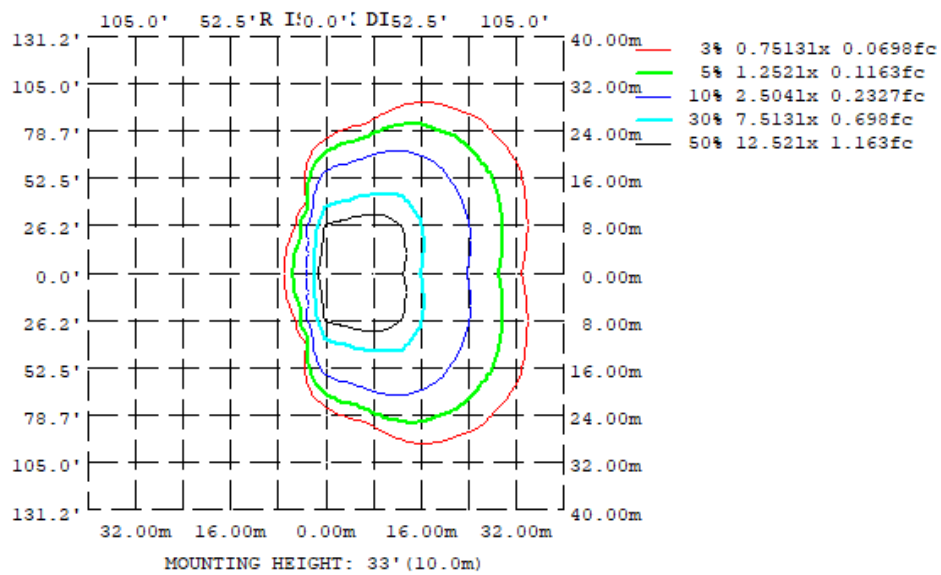
Zonal Lumen Requirement (0° - 90°)	Zonal Lumen Requirement (80° - 90°)	BUG rating
100.00%	1.78%	B1-U0-G2

4.2 Goniophotometer Test

Light Distribution Curve



Isolux Plot



4.2 Goniophotometer Test

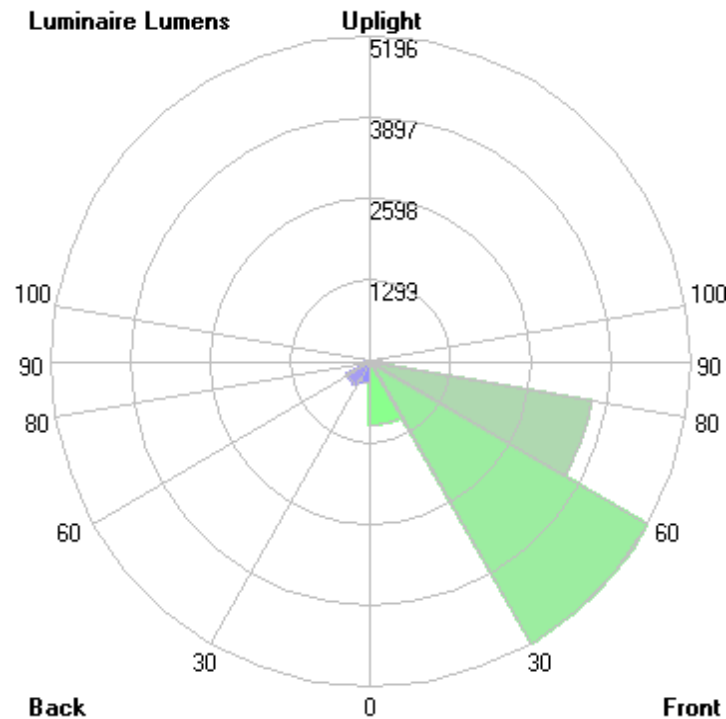
Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	1887	1927	1860	1251	902.4	1251	1860	1927
20	2757	2235	1849	450.2	261.7	450.2	1849	2235
30	3807	3188	2287	239.0	170.7	239.0	2287	3188
40	4752	4379	2692	169.9	94.85	169.9	2692	4379
50	5521	5694	2484	98.46	36.48	98.46	2484	5694
60	4773	6665	1944	52.64	27.82	52.64	1944	6665
70	3822	5233	556.9	36.04	20.92	36.04	556.9	5233
80	978.9	2146	78.51	15.87	10.15	15.87	78.51	2146
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	162.91	0 - 10	162.91	1.49%
10-20	425.65	0 - 20	588.56	5.38%
20-30	773.32	0 - 30	1361.88	12.45%
30-40	1305.54	0 - 40	2667.42	24.39%
40-50	1923.09	0 - 50	4590.51	41.98%
50-60	2410.83	0 - 60	7001.34	64.02%
60-70	2315.47	0 - 70	9316.81	85.19%
70-80	1424.53	0 - 80	10741.34	98.22%
80-90	194.60	0 - 90	10935.94	100.00%
90-100	0.00	0 - 100	10935.94	100.00%
100-110	0.00	0 - 110	10935.94	100.00%
110-120	0.00	0 - 120	10935.94	100.00%
120-130	0.00	0 - 130	10935.94	100.00%
130-140	0.00	0 - 140	10935.94	100.00%
140-150	0.00	0 - 150	10935.94	100.00%
150-160	0.00	0 - 160	10935.94	100.00%
160-170	0.00	0 - 170	10935.94	100.00%
170-180	0.00	0 - 180	10935.94	100.00%

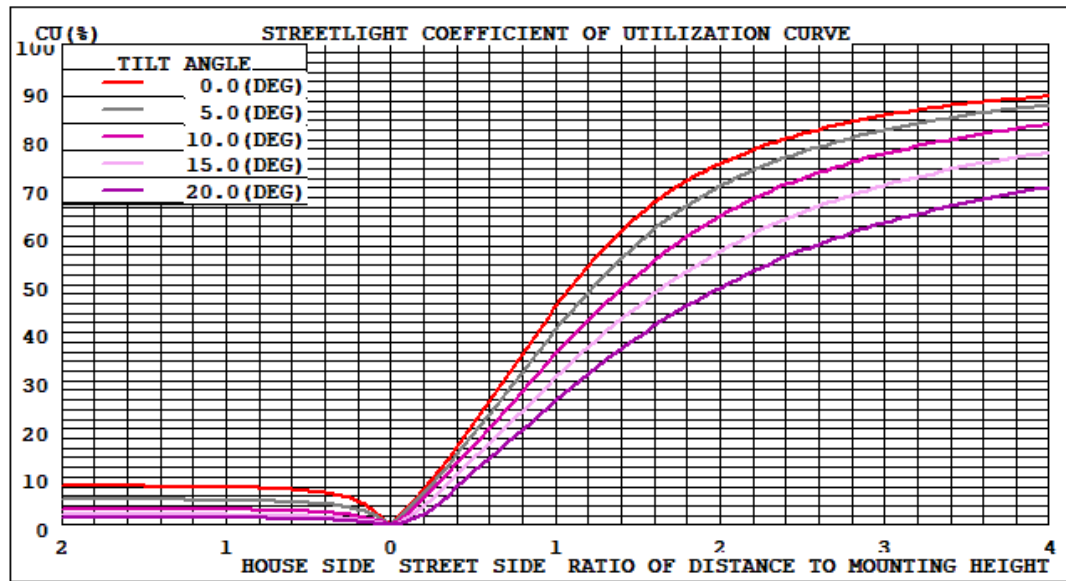
4.2 Goniophotometer Test

LCS/BUG

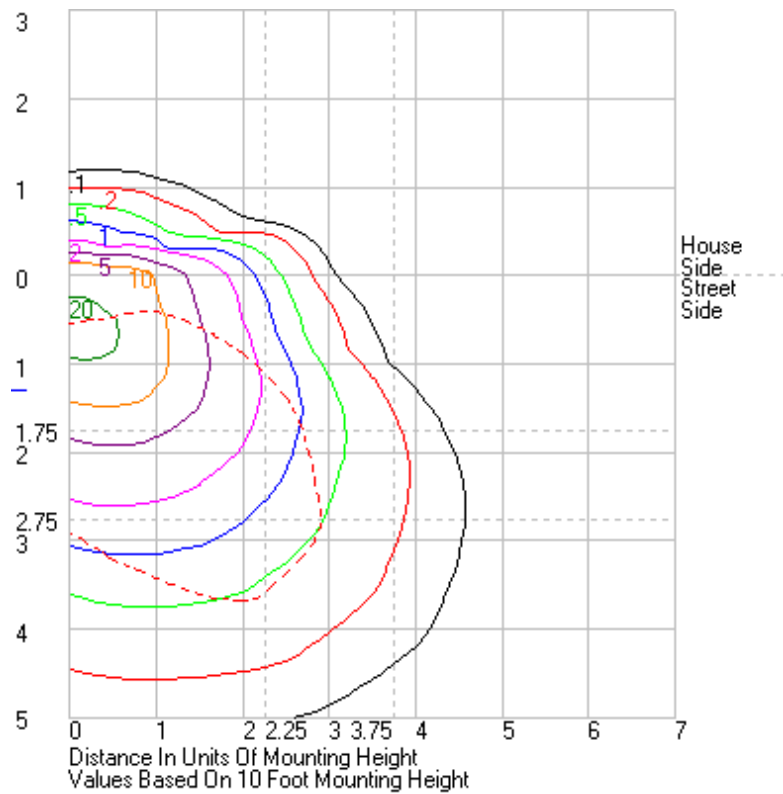


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	1011.0	N.A.	9.2
FM - Front-Medium (30-60)	5196.1	N.A.	47.5
FH - Front-High (60-80)	3636.2	N.A.	33.3
FVH - Front-Very High (80-90)	189.5	N.A.	1.7
BL - Back-Low (0-30)	350.9	N.A.	3.2
BM - Back-Medium (30-60)	443.3	N.A.	4.1
BH - Back-High (60-80)	103.8	N.A.	0.9
BVH - Back-Very High (80-90)	5.1	N.A.	0.0
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	10935.9	N.A.	100.0
BUG Rating	B1-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	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25	1845.25
1	1866.94	1864.48	1862.83	1862.15	1858.56	1853.3	1846.21	1837.79	1827.58	1817.96	1807.97	1802.64	1800.3	1802.64	1807.97	1817.96	1827.58	1837.79	1846.21	1853.3	1858.56	1862.15	1862.83	1864.48	1866.94
2	1878.81	1876.53	1875.28	1873.07	1869.22	1862.09	1849.97	1830.36	1803.8	1779.36	1757.27	1741.3	1736.4	1741.3	1757.27	1779.36	1803.8	1830.36	1849.97	1862.09	1869.22	1873.07	1875.28	1876.53	1878.81
3	1880.89	1878.81	1880.81	1882.31	1878.89	1870.37	1852.1	1820.44	1777.48	1733.08	1696.02	1669.7	1659.88	1669.7	1696.02	1733.08	1777.48	1820.44	1852.1	1870.37	1878.89	1882.31	1880.81	1878.81	1880.89
4	1876.02	1874.81	1880.48	1887.75	1888.33	1878.87	1856.92	1810.44	1744.89	1680.47	1622.23	1580.92	1562.98	1580.92	1622.23	1680.47	1744.89	1810.44	1856.92	1878.87	1888.33	1887.75	1880.48	1874.81	1876.02
5	1871.12	1870.78	1879.95	1889.37	1897.57	1888.24	1860.75	1797.76	1712.15	1621.05	1538.03	1484.09	1461.49	1484.09	1538.03	1621.05	1712.15	1797.76	1860.75	1888.24	1897.57	1889.37	1879.95	1870.78	1871.12
6	1867.96	1871.23	1883.62	1893.89	1904.24	1896.35	1864.05	1784.29	1673.27	1552.08	1446.25	1380.52	1357.69	1380.52	1446.25	1552.08	1673.27	1784.29	1864.05	1896.35	1904.24	1893.89	1883.62	1871.23	1867.96
7	1867.47	1872.43	1887.47	1900.19	1909.81	1903.37	1865.32	1766.67	1628.55	1478.89	1354.03	1274.82	1253.74	1274.82	1354.03	1478.89	1628.55	1766.67	1865.32	1903.37	1909.81	1900.19	1887.47	1872.43	1867.47
8	1870.59	1877.6	1894.64	1909.85	1913.57	1909.29	1866.86	1748.53	1582.37	1403.15	1262.98	1167.83	1139.56	1167.83	1262.98	1403.15	1582.37	1748.53	1866.86	1909.29	1913.57	1909.85	1894.64	1877.6	1870.59
9	1875.98	1884.49	1906.06	1919.32	1918.41	1912.24	1863.94	1727.41	1530.35	1327.82	1164.84	1053.19	1018.16	1053.19	1164.84	1327.82	1530.35	1727.41	1863.94	1912.24	1918.41	1919.32	1906.06	1884.49	1875.98
10	1886.98	1897.61	1919.33	1926.85	1921.2	1910.41	1859.96	1703.7	1475.71	1250.54	1061.27	938.21	902.43	938.21	1061.27	1250.54	1475.71	1703.7	1859.96	1910.41	1921.2	1926.85	1919.33	1897.61	1886.98
11	1908.83	1920.76	1937.09	1938.1	1921.99	1907.83	1853.79	1678.34	1416.52	1168.26	955.46	826.61	787.88	826.61	955.46	1168.26	1416.52	1678.34	1853.79	1907.83	1921.99	1938.1	1937.09	1920.76	1908.83
12	1947.11	1954.3	1962.03	1946.92	1921.96	1902.25	1849.29	1648.23	1357.3	1080.75	854.95	717.89	675.44	717.89	854.95	1080.75	1357.3	1648.23	1849.29	1902.25	1921.96	1946.92	1962.03	1954.3	1947.11
13	2004	2006.99	1995.69	1958.28	1921.01	1897.06	1842.45	1618.76	1296.84	989.94	753.38	614.78	570.55	614.78	753.38	989.94	1296.84	1618.76	1842.45	1897.06	1921.01	1958.28	1995.69	2006.99	2004
14	2075.8	2078.84	2040.96	1973.32	1920.1	1891.46	1835.96	1584.93	1233.34	901.1	654.81	522.26	478.41	522.26	654.81	901.1	1233.34	1584.93	1835.96	1891.46	1920.1	1973.32	2040.96	2078.84	2075.8
15	2177.36	2168.34	2101.8	2108.68	2101.8	1887.37	1830.58	1552.13	1169.22	815.6	569.32	440.19	405.48	440.19	569.32	815.6	1169.22	1552.13	1830.58	1887.37	2101.8	2108.68	2168.34	2177.36	
16	2291.66	2279.09	2177.13	2022.59	1923.95	1886.31	1827.67	1519.32	1103.69	731.26	489	373.89	344.36	373.89	489	731.26	1103.69	1519.32	1827.67	1886.31	1923.95	2022.59	2177.13	2279.09	2291.66
17	2415	2402.3	2269.51	2058.66	1930.03	1884.68	1825.58	1486.31	1037	650.3	419.88	324.51	304.2	324.51	419.88	650.3	1037	1486.31	1825.58	1884.68	1930.03	2058.66	2269.51	2402.3	2415
18	2539.82	2529.08	2381.31	2109.05	1942.99	1885.98	1827.68	1454.57	970.95	577.79	364.09	293.51	281.39	293.51	364.09	577.79	970.95	1454.57	1827.68	1885.98	1942.99	2109.05	2381.31	2529.08	2539.82
19	2646.91	2649.96	2493.42	2166.97	1961.71	1891.29	1835.16	1425.81	906.92	509.92	322.68	277.01	270.27	277.01	322.68	509.92	906.92	1425.81	1835.16	1891.29	1961.71	2166.97	2493.42	2649.96	2646.91
20	2757.21	2761.46	2606.92	2235.24	1987.37	1902.93	1848.7	1400.45	846.79	450.19	296.08	267.05	261.74	267.05	296.08	450.19	846.79	1400.45	1848.7	1902.93	1987.37	2235.24	2606.92	2761.46	2757.21
21	2870.79	2871.73	2718.32	2307.7	2017.15	1921.35	1868.25	1377.9	790.05	400.5	280.13	257.48	251.57	257.48	280.13	400.5	790.05	1377.9	1868.25	1921.35	2017.15	2307.7	2718.32	2871.73	2870.79
22	2972.22	2982.9	2819.06	2390.92	2053.39	1947.94	1895.65	1358.35	735.58	358.34	270.2	247.74	240.85	247.74	270.2	358.34	735.58	1358.35	1895.65	1947.94	2053.39	2390.92	2819.06	2982.9	2972.22
23	3082.71	3091.64	2925.31	2484.7	2095.69	1979.72	1930.87	1344.01	680.92	323.73	261.03	237.61	230.77	237.61	261.03	323.73	680.92	1344.01	1930.87	1979.72	2095.69	2484.7	2925.31	3091.64	3082.71
24	3186.06	3197.06	3028.97	2577.81	2142.49	2019.84	1971.06	1329.84	628.55	299.33	251.67	228.03	222.09	228.03	251.67	299.33	628.55	1329.84	1971.06	2019.84	2142.49	2577.81	3028.97	3197.06	3186.06
25	3294.12	3307.31	3139.68	2675.68	2196.64	2065.1	2018.65	1317.07	578.69	282.87	242.02	219.25	212.36	219.25	242.02	282.87	578.69	1317.07	2018.65	2065.1	2196.64	2675.68	3139.68	3307.31	3294.12
26	3400.96	3421.09	3246.04	2776.98	2259.53	2117.91	2070.33	1305.29	530.15	272.64	232.93	210.62	203.43	210.62	232.93	272.64	530.15	1305.29	2070.33	2117.91	2259.53	2776.98	3246.04	3421.09	3400.96
27	3501.2	3530.95	3351.82	2875.71	2330.1	2173.28	2121.98	1292.57	486.71	264.04	224.51	202.59	195.05	202.59	224.51	264.04	486.71	1292.57	2121.98	2173.28	2330.1	2875.71	3351.82	3530.95	3501.2
28	3613.27	3647.62	3462.04	2979.51	2406.28	2235	2177.06	1279.18	445.34	255.65	216.53	194.4	186.91	194.4	216.53	255.65	445.34	1279.18	2177.06	2235	2406.28	2979.51	3462.04	3647.62	3613.27
29	3707.91	3761.98	3570.97	3082.39	2484.56	2299.03	2231.5	1262.61	405.09	247.28	208.93	186.64	178.63	186.64	208.93	247.28	405.09	1262.61	2231.5	2299.03	2484.56	3082.39	3570.97	3761.98	3707.91
30	3807.33	3869.86	3687.98	3188.18	2570.02	2366.38	2286.65	1242.36	367.55	238.98	201.25	178.84	170.71	178.84	201.25	238.98	367.55	1242.36	2286.65	2366.38	2570.02	3188.18	3687.98	3869.86	3807.33
31	3902.45	3975.6	3804.56	3301.62	2660.42	2434.66	2343.74	1219.84	334.1	231	193.91	171.27	163.09	171.27	193.91	231	334.1	1219.84	2343.74	2434.66	2660.42	3301.62	3804.56	3975.6	3902.45
32	3995.05	4082.9	3917.02	3409.19	2755.61	2504.38	2398.74	1194.26	306.86	223.71	186.96	164.06	155.6	164.06	186.96	223.71	306.86	1194.26	2398.74	2504.38	2755.61	3409.19	3917.02	4082.9	3995.05
33	4094.64	4196.11	4028.66	3524.99	2855.63	2575.56	2452.95	1165.87	286.69	216.61	179.73	156.68	148.05	156.68	179.73	216.61	286.69	1165.87	2452.95	2575.56	2855.63	3524.99	4028.66	4196.11	4094.64
34	4171.68	4300.73	4138.65	3641.3	2959.85	2648.92	2503.5	1135.07	274.31	209.95	172.86	149.48	140.49	149.48	172.86	209.95	274.31	1135.07	2503.5	2648.92	2959.85	3641.3	4138.65	4300.73	4171.68
35	4263.68	4399.3	4254.45	3762.69	3063.38	2718.16	2551.89	1099.54	265.35	203.33	166.01	142.07	132.57	142.07	166.01	203.33	265.35	1099.54	2551.89	2718.16	3063.38	3762.69	4254.45	4399.3	4263.68
36	4371	4512.52	4377.94	3885.52	3170.49	2791.03	2594.63	1060.82	257.86	196.61	158.97	134.25	124.98	134.25	158.97	196.61	257.86	1060.82	2594.63	2791.03	3170.49	3885.52	4377.94	4512.52	4371
37	4465.25	4626.67	4497.37	4006.3	3270.89	2854.77	2629.78	1014.98	249.99	190.02	151.99	127	117.74	127	151.99	190.02	249.99	1014.98	2629.78	2854.77	3270.89	4006.3	4497.37	4626.67	4465.25
38	4573.59	4749.21	4620.22	4129.17	3369.75	2916.52	2659.37	964.69	242.09	183.26	144.76	119.67	110.34	119.67	144.76	183.26	242.09	964.69	2659.37	2916.52	3369.75	4129.17	4620.22	4749.21	4573.59
39	4656.53	4871.08	4748.66	4250.2	3470.14	2972.45	2680.74	909.69	234.45	176.59	13														

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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.	ALEDS4T	Sample ID.	F1
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
120.06	60	0.684	82.0	0.999	2.06%
276.99	60	0.298	79.7	0.966	7.78%

5.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2021/12/26	2022/12/25
DLF108	Auxiliary Lamp	2021/12/26	2022/12/25
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2021/12/26	2022/12/25
DLF116	AC Power Source	2021/12/26	2022/12/25
DLF113	Power Meter	2021/12/26	2022/12/25
DLF112	Temperature Recorder	2021/12/26	2022/12/25
DLF114	Temperature & Humidity Datalogger	2021/12/26	2022/12/25
DLF101	Goniophotometer	2021/12/26	2022/12/25
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2021/12/26	2022/12/25
DLF104	AC Power Source	2021/12/26	2022/12/25
DLF507	DC Power Source	2021/12/26	2022/12/25
DLF102	Power Meter	2021/12/26	2022/12/25
DLF111	Temperature & Humidity Datalogger	2021/12/26	2022/12/25
DLF119	Power Meter	2021/12/26	2022/12/25
DLF031	Temperature data logger	2021/12/26	2022/12/25
DLF022	Digital power meter	2021/12/26	2022/12/25
DLF003	Temperature & Humidity Datalogger	2021/12/26	2022/12/25

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