

Photometric Test Report

Relevant Standards

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

Prepared For RAB Lighting Inc.

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Project Number

DLF2207109

Report Number

DLF2207109-4a

Test Date

2022/7/29

Issue Date

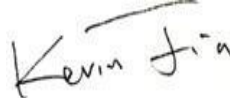
2022/7/30

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		10742
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	131.3
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		81.8
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	1.96%
		20.00%	277V	7.70%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.999
		0.9	277V	0.965
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	5029±355	4854
		4 step	5029±220	
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		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%		0.79%
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		0.682
(Goniophotometer - Section 4.2)		Non-Worst Case		0.298
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		81.8
(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	ALEDS3T	D1
2	Goniophotometer Test	2022/7/29	ALEDS3T	D1
3	THD and PF Test	2022/7/29	ALEDS3T	D1

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.

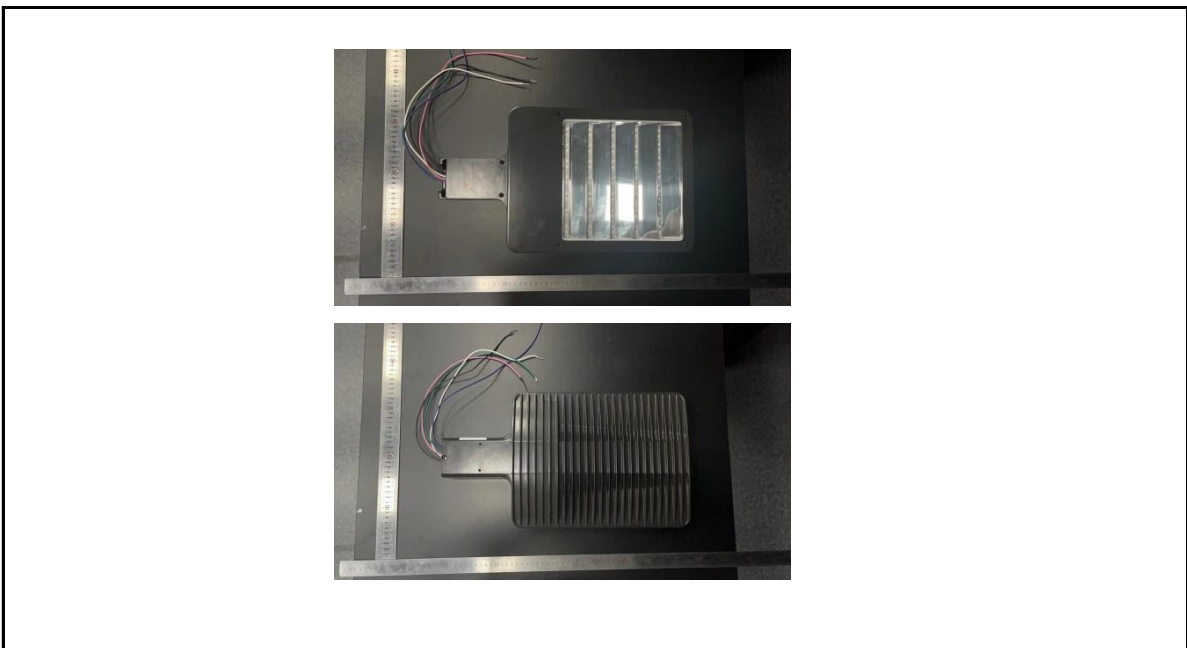
3.0 Production Description

Luminaire Description: ALEDS3T

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.	ALEDS3T	Sample ID.	D1
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	0.680	81.6	0.999
277.06	60	0.297	79.3	0.965

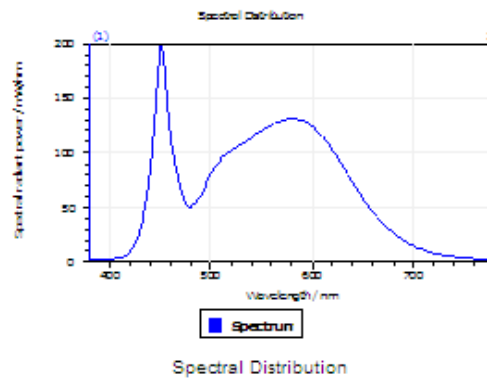
Test Result

CCT (K)	CRI	R9	Duv
4854	82	1	0.0039

Rf	Rg	IES Rcs,h1
83	95	-13%

4.1 Integrating Sphere Test

Results

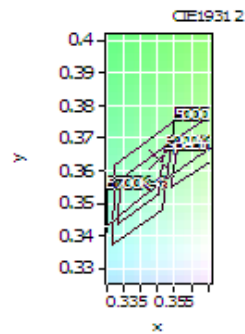


Spectral values

DominantWavelength 571.27 nm
Purity 0.142
PeakWavelength 451.20 nm
Radiant Power 24.95 W
Width50%:

Color Coordinates

Correlated Color Temperat 4854 K
x: 0.3503 u: 0.2103 u': 0.2103
y: 0.3636 v: 0.3274 v': 0.4912
CRI01 78.9 CRI09 1.4
CRI02 87.1 CRI10 69.6
CRI03 93.2 CRI11 79.1
CRI04 80.7 CRI12 56.1
CRI05 79.6 CRI13 80.9
CRI06 82.1 CRI14 96.4
CRI07 87.4 CRI15 72.5
CRI08 65.3 CRI16 70.2
ResultsCRI 81.8



PlanckDistance 3.9E-003

4.1 Integrating Sphere Test

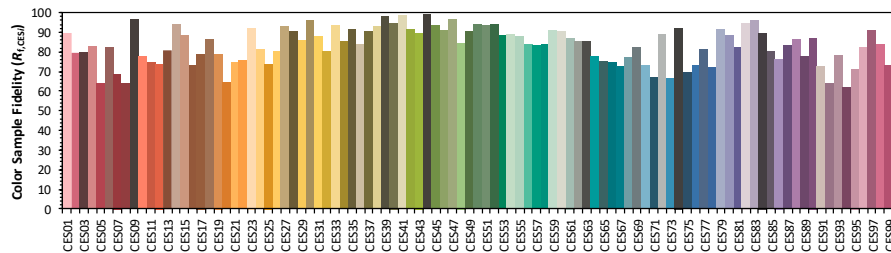
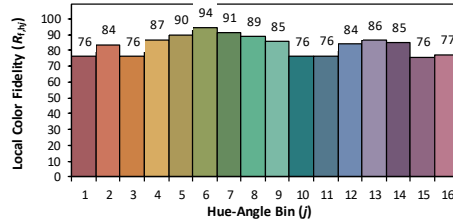
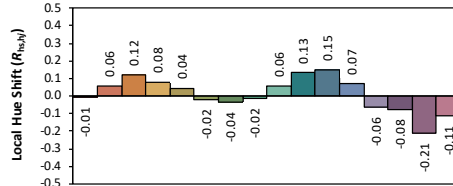
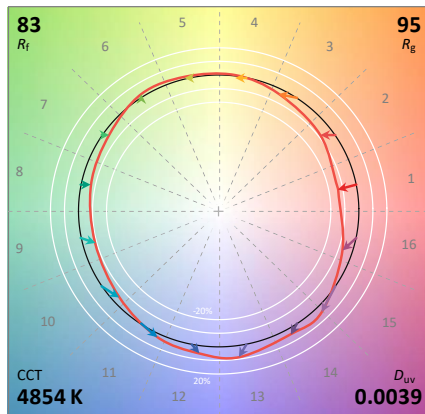
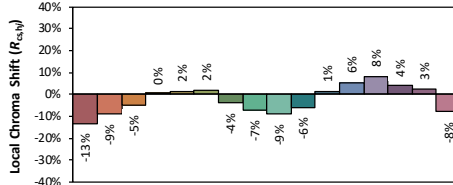
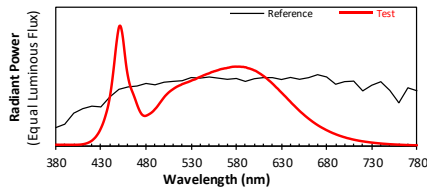
IES TM-30-18 Color Rendition Report

Source: DLF2207109-4a

Manufacturer: RAB Lighting Inc.

Date: 2022/7/29

Model: ALED53T



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

x 0.3503
 y 0.3636
 u' 0.2103
 v' 0.4912

CIE 13.3-1995
(CRI)
 R_a 82
 R_g 0

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.	ALEDS3T	Sample ID.	D1
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	120.06	60	0.682	81.8	0.999
NON-WORST CASE	277.06	60	0.298	79.8	0.965

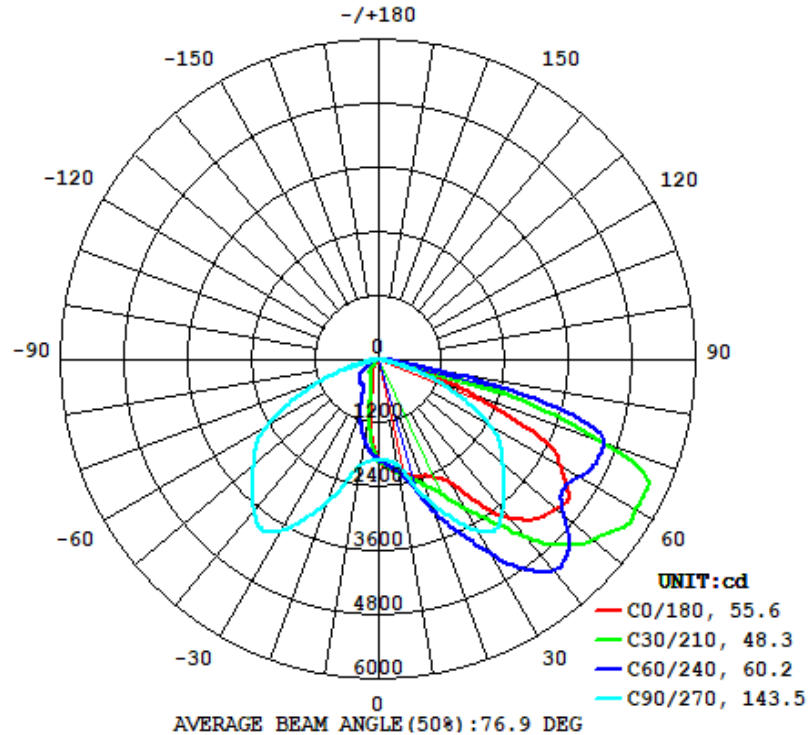
Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
10742	91.7	160.2	55.6	143.5	131.3

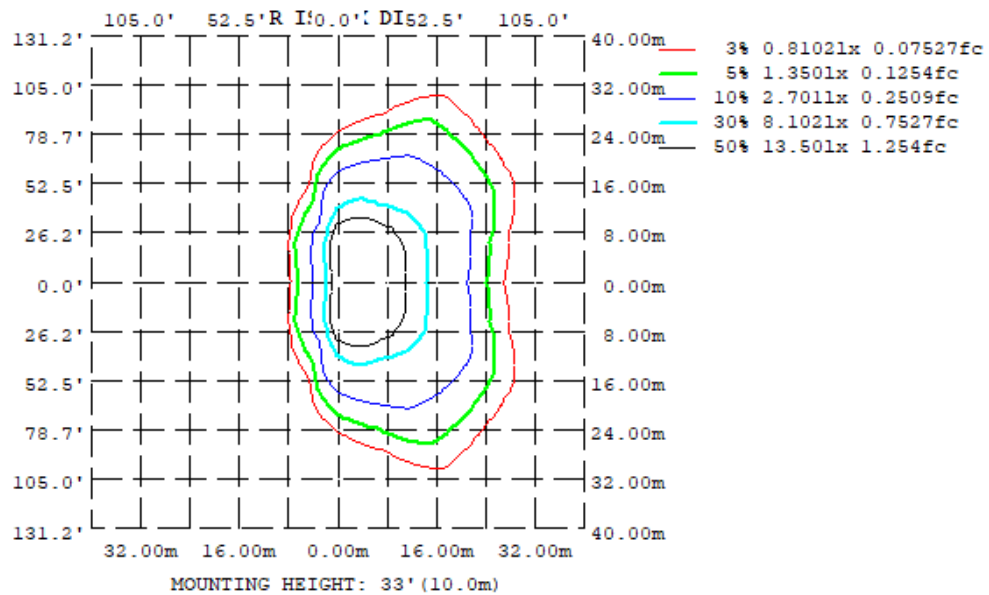
Zonal Lumen Requirement (0° - 90°)	Zonal Lumen Requirement (80° - 90°)	BUG rating
100.00%	0.79%	B1-U0-G2

4.2 Goniophotometer Test

Light Distrubtion Curve



Isolux Plot



4.2 Goniophotometer Test

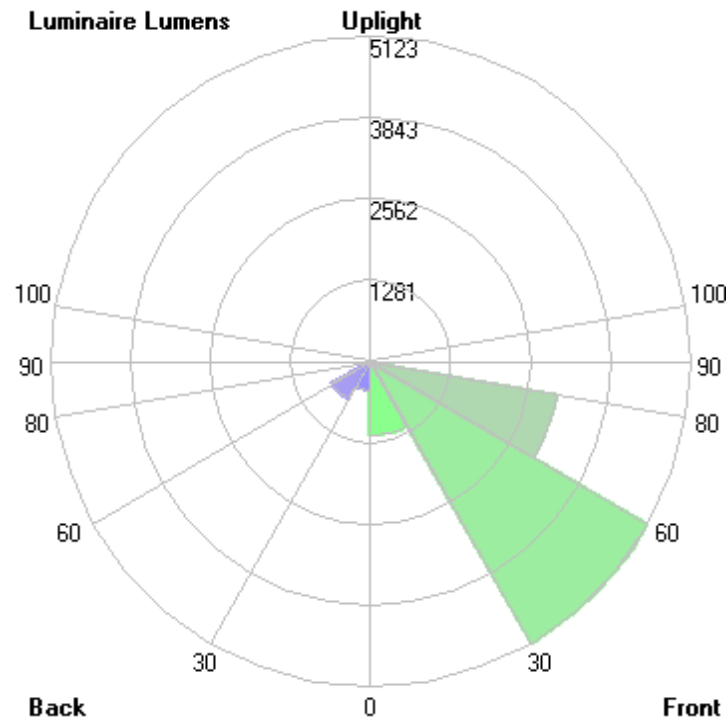
Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	2163	2155	2014	1274	881.3	1274	2014	2155
20	2343	2750	2839	553.5	362.4	553.5	2839	2750
30	2649	3853	3721	459.8	241.7	459.8	3721	3853
40	3901	4827	3677	391.4	114.0	391.4	3677	4827
50	4360	5357	3086	192.7	70.49	192.7	3086	5357
60	3980	5159	2390	111.2	35.04	111.2	2390	5159
70	1801	4662	1157	42.73	15.79	42.73	1157	4662
80	99.04	741.6	194.7	15.51	6.313	15.51	194.7	741.6
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	172.29	0 - 10	172.29	1.60%
10-20	499.16	0 - 20	671.45	6.25%
20-30	946.78	0 - 30	1618.23	15.06%
30-40	1537.33	0 - 40	3155.56	29.38%
40-50	2022.69	0 - 50	5178.25	48.21%
50-60	2262.94	0 - 60	7441.19	69.27%
60-70	2128.51	0 - 70	9569.70	89.09%
70-80	1087.07	0 - 80	10656.77	99.21%
80-90	85.28	0 - 90	10742.05	100.00%
90-100	0.00	0 - 100	10742.05	100.00%
100-110	0.00	0 - 110	10742.05	100.00%
110-120	0.00	0 - 120	10742.05	100.00%
120-130	0.00	0 - 130	10742.05	100.00%
130-140	0.00	0 - 140	10742.05	100.00%
140-150	0.00	0 - 150	10742.05	100.00%
150-160	0.00	0 - 160	10742.05	100.00%
160-170	0.00	0 - 170	10742.05	100.00%
170-180	0.00	0 - 180	10742.05	100.00%

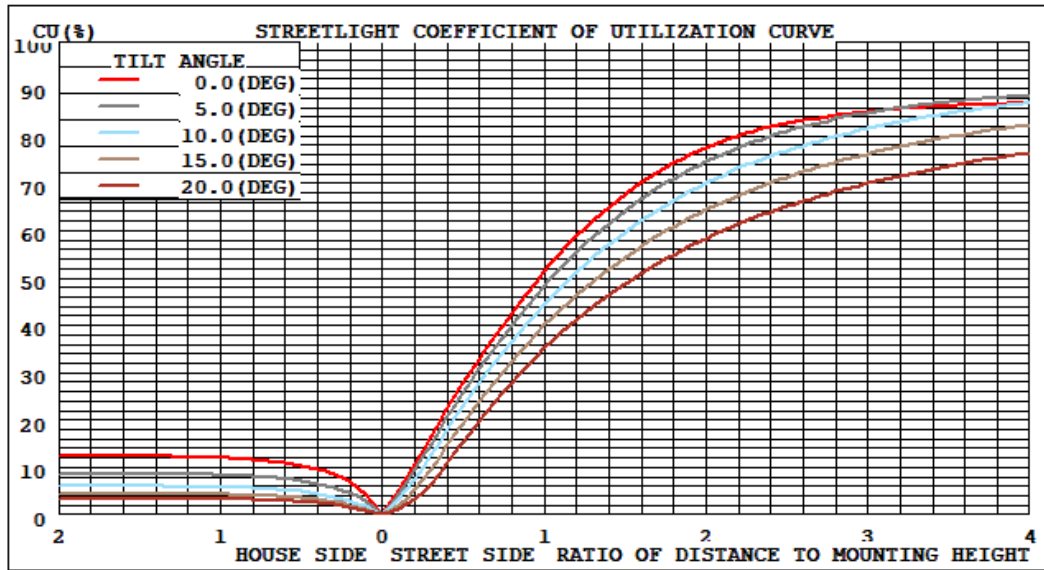
4.2 Goniophotometer Test

LCS/BUG

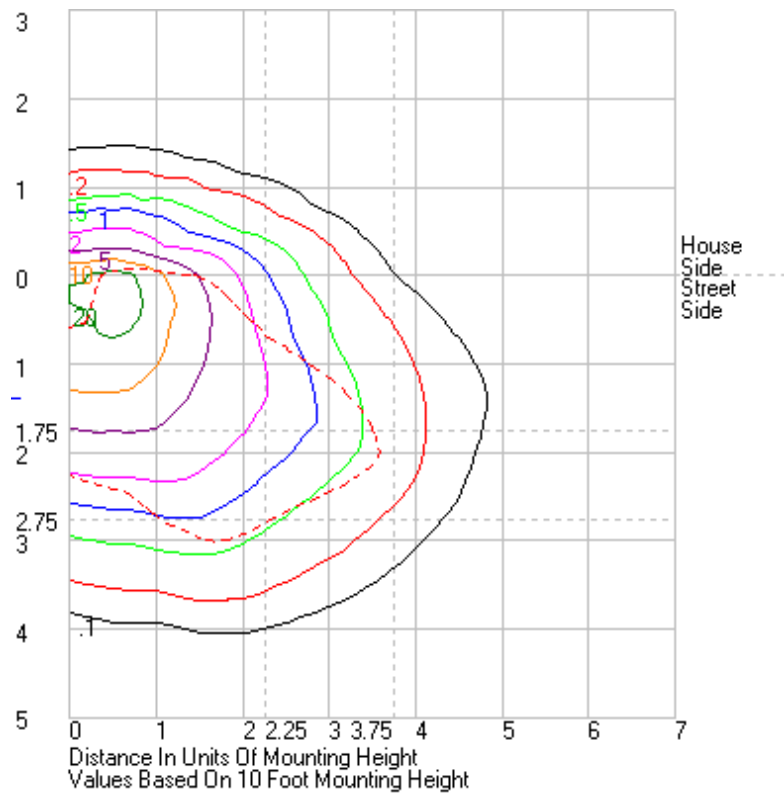


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	1164.5	N.A.	10.8
FM - Front-Medium (30-60)	5123.5	N.A.	47.7
FH - Front-High (60-80)	3022.0	N.A.	28.1
FVH - Front-Very High (80-90)	79.3	N.A.	0.7
BL - Back-Low (0-30)	453.7	N.A.	4.2
BM - Back-Medium (30-60)	699.5	N.A.	6.5
BH - Back-High (60-80)	193.6	N.A.	1.8
BVH - Back-Very High (80-90)	6.0	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	10742.1	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	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892	1892
1	1924.92	1923.92	1920.92	1916.79	1910.86	1903.54	1893.53	1882.93	1872.6	1861.44	1853.19	1847.42	1844.94	1847.42	1853.19	1861.44	1872.6	1882.93	1893.53	1903.54	1910.86	1916.79	1920.92	1923.92	1924.92
2	1953.77	1950.02	1945.63	1937.4	1928.11	1914.58	1895.55	1874.31	1849.2	1824.5	1804.04	1789.29	1783.8	1789.29	1804.04	1824.5	1849.2	1874.31	1895.55	1914.58	1928.11	1937.4	1945.63	1950.02	1953.77
3	1982.61	1978.85	1971.37	1959.72	1944.83	1926.88	1900.59	1866.01	1823.96	1780.19	1741.84	1714.91	1706.41	1714.91	1741.84	1780.19	1823.96	1866.01	1900.59	1926.88	1944.83	1959.72	1971.37	1978.85	1982.61
4	2011.98	2007.43	1999.25	1985.03	1966.77	1942.17	1908.12	1858.64	1796.44	1727.95	1669.36	1628.06	1607.59	1628.06	1669.36	1727.95	1796.44	1858.64	1908.12	1942.17	1966.77	1985.03	1999.25	2007.43	2011.98
5	2039.73	2034.6	2026.29	2012.3	1989.4	1958.03	1916.78	1851.87	1765.09	1670.8	1582.25	1520.51	1499.81	1520.51	1582.25	1670.8	1765.09	1851.87	1916.78	1958.03	1989.4	2012.3	2026.29	2034.6	2039.73
6	2064.44	2060.33	2054.84	2041.37	2014.15	1975.77	1927.23	1844.36	1730.69	1602.36	1485.61	1406.84	1379.75	1406.84	1485.61	1602.36	1730.69	1844.36	1927.23	1975.77	2014.15	2041.37	2054.84	2060.33	2064.44
7	2088.5	2084.23	2081.43	2069.76	2039.91	1996.66	1939.27	1837.7	1691.45	1525.51	1380.4	1289.25	1259.68	1289.25	1380.4	1525.51	1691.45	1837.7	1939.27	1996.66	2039.91	2069.76	2081.43	2084.23	2088.5
8	2113.42	2109.28	2107.49	2097.51	2067.66	2018.86	1955.66	1832.19	1648.92	1444.29	1277.02	1166.98	1136.03	1166.98	1277.02	1444.29	1648.92	1832.19	1955.66	2018.86	2067.66	2097.51	2107.49	2109.28	2113.42
9	2139.2	2136.31	2134.74	2124.44	2095.66	2049.82	1980.03	1829.45	1601.4	1360.24	1169.6	1045.8	1004.67	1045.8	1169.6	1360.24	1601.4	1829.45	1980.03	2049.82	2095.66	2124.44	2134.74	2136.31	2139.2
10	2163.45	2162.69	2164.89	2154.72	2131.58	2089.49	2014.22	1833.21	1552.48	1273.55	1058.92	922.05	881.29	922.05	1058.92	1273.55	1552.48	1833.21	2014.22	2089.49	2131.58	2154.72	2164.89	2162.69	2163.45
11	2189.51	2189.19	2194.69	2186.7	2175.75	2140.81	2060.56	1842.41	1502.38	1185.14	952.54	808.07	764.7	808.07	952.54	1185.14	1502.38	1842.41	2060.56	2140.81	2175.75	2186.7	2194.69	2189.19	2189.51
12	2213.23	2214.8	2225.05	2224.45	2228.53	2205.08	2117.28	1859.48	1451.94	1095.52	844.86	701.57	659.85	701.57	844.86	1095.52	1451.94	1859.48	2117.28	2205.08	2228.53	2224.45	2225.05	2214.8	2213.23
13	2234.05	2238	2257.07	2270.87	2290.91	2276.04	2176.77	1876.49	1404.47	1006.75	746.85	613.97	579.01	613.97	746.85	1006.75	1404.47	1876.49	2176.77	2276.04	2290.91	2270.87	2257.07	2238	2234.05
14	2251.52	2258.81	2287.83	2322.23	2362.07	2353.51	2248.35	1894.34	1355.2	919.66	660.82	545.05	510.54	545.05	660.82	919.66	1355.2	1894.34	2248.35	2353.51	2362.07	2322.23	2287.83	2258.81	2251.52
15	2271.2	2277.98	2316.98	2382.13	2439.18	2445.04	2336.02	1920.66	1304.52	835.96	596.97	487.04	461.39	487.04	596.97	835.96	1304.52	1920.66	2336.02	2445.04	2439.18	2382.13	2316.98	2277.98	2271.2
16	2289.51	2301.72	2346.01	2447.22	2527.31	2555.85	2438.73	1954.37	1255.79	761.09	538.48	446.18	427.15	446.18	538.48	761.09	1255.79	1954.37	2438.73	2555.85	2527.31	2447.22	2346.01	2301.72	2289.51
17	2308.35	2322.41	2380.89	2514.38	2630.05	2678.85	2546.37	1993.87	1209.07	692.82	490.32	420.57	405.4	420.57	490.32	692.82	1209.07	1993.87	2546.37	2678.85	2630.05	2514.38	2380.89	2322.41	2308.35
18	2324.41	2343.54	2419.55	2584.1	2745.93	2795.64	2648.21	2026.56	1157.26	643.9	459.76	403.34	389.49	403.34	459.76	643.9	1157.26	2026.56	2648.21	2795.64	2745.93	2584.1	2419.55	2343.54	2324.41
19	2338.16	2364.1	2462.14	2660.07	2869.76	2910.8	2745.96	2049.92	1103.6	594.15	440.37	389.7	375.6	389.7	440.37	594.15	1103.6	2049.92	2745.96	2910.8	2869.76	2660.07	2462.14	2364.1	2338.16
20	2343.07	2378.13	2507.18	2749.63	2993.29	3020.49	2839.01	2066.78	1047.26	553.55	427.35	376.95	362.39	376.95	427.35	553.55	1047.26	2066.78	2839.01	3020.49	2993.29	2749.63	2507.18	2378.13	2343.07
21	2347.55	2390.64	2555.38	2853.86	3111.5	3125.46	2928.7	2072.29	985.53	524.34	417.49	364.62	349.67	364.62	417.49	524.34	985.53	2072.29	2928.7	3125.46	3111.5	2853.86	2555.38	2390.64	2347.55
22	2361.89	2402.98	2604.73	2965.45	3231.95	3228.64	3014.33	2072.69	926.74	506.95	408.51	351.87	335.57	351.87	408.51	506.95	926.74	2072.69	3014.33	3228.64	3231.95	2965.45	2604.73	2402.98	2361.89
23	2384.77	2428.11	2655.45	3085.34	3348.96	3329.59	3102.31	2067.8	870.25	496.38	399.66	338.41	322.18	338.41	399.66	496.38	870.25	2067.8	3102.31	3329.59	3348.96	3085.34	2655.45	2428.11	2384.77
24	2411.16	2459.53	2709	3196.57	3463.87	3433.91	3192.45	2055.93	816.25	490.31	389.89	325.62	306.99	325.62	389.89	490.31	816.25	2055.93	3192.45	3433.91	3463.87	3196.57	2709	2459.53	2411.16
25	2446.92	2495.54	2773.52	3304.5	3573.36	3546.29	3283.29	2038.98	765.4	485.67	379.34	310.39	291.63	310.39	379.34	485.67	765.4	2038.98	3283.29	3546.29	3573.36	3304.5	2773.52	2495.54	2446.92
26	2482.45	2540.07	2850.88	3408.78	3683.6	3657.75	3379.46	2016.76	718.5	481.89	369.64	296.02	277.84	296.02	369.64	481.89	718.5	2016.76	3379.46	3657.75	3683.6	3408.78	2850.88	2540.07	2482.45
27	2515.01	2584.07	2933.81	3511.36	3798.8	3773.38	3469.94	1988.85	679.67	478.03	357.43	283.29	266.24	283.29	357.43	478.03	679.67	1988.85	3469.94	3773.38	3798.8	3511.36	2933.81	2584.07	2515.01
28	2550.46	2630.95	3029.46	3621.59	3925.05	3892.13	3562.82	1955.21	649.23	473.12	345.09	272.29	256	272.29	345.09	473.12	649.23	1955.21	3562.82	3892.13	3925.05	3621.59	3029.46	2630.95	2550.46
29	2588.05	2681.26	3129.01	3738.33	4052.99	4015	3649.14	1913.42	620.78	466.66	334.55	263.09	247.76	263.09	334.55	466.66	620.78	1913.42	3649.14	4015	4052.99	3738.33	3129.01	2681.26	2588.05
30	2649.01	2744.64	3226.55	3852.67	4184.37	4132.49	3721.1	1864.47	599.96	459.8	324.64	255.72	241.68	255.72	324.64	459.8	599.96	1864.47	3721.1	4132.49	4184.37	3852.67	3226.55	2744.64	2649.01
31	2741.4	2825.7	3319.34	3969.71	4317.77	4241.15	3786.17	1803.79	586.9	452.34	317.74	250.59	235.56	250.59	317.74	452.34	586.9	1803.79	3786.17	4241.15	4317.77	3969.71	3319.34	2825.7	2741.4
32	2855.34	2927.05	3407.21	4087.74	4449.82	4338.92	3834.92	1732.29	582.59	443.29	311.65	245.14	229.84	245.14	311.65	443.29	582.59	1732.29	3834.92	4338.92	4449.82	4087.74	3407.21	2927.05	2855.34
33	2997.47	3055.13	3500.11	4206.97	4579.32	4423.02	3871.44	1652.38	582.3	432.17	308.57	239.71	223.62	239.71	308.57	432.17	582.3	1652.38	3871.44	4423.02	4579.32	4206.97	3500.11	3055.13	2997.47
34	3144.18	3197.4	3593.89	4327.34	4695.34	4493.32	3888.29	1566.84	582.54	421.86	306.58	232.86	211.63	232.86	306.58	421.86	582.54	1566.84	3888.29	4493.32	4695.34	4327.34	3593.89	3197.4	3144.18
35	3296.46	3351.25	3700.39	4440.88	4799.63	4546.15	3885.38	1480.26	582.54	411.51	304.04	221.88	196.8	221.88	304.04	411.51	582.54	1480.26	3885.38	4546.15	4799.63	4440.88	3700.39	3351.25	3296.46
36	3451.94	3498.47	3816.29	4543.8	4896.38	4578.84	3865.41	1393.33	582.22	403.55	301.25	207.25	180.09	207.25	301.25	403.55	582.22	1393.33	3865.41	4578.84	4896.38	4543.8	3816.29	3498.47	3451.94
37	3578.03	3643.6	3946.26	4632.33	4983.06	4599.53	3830.12	1304.24	580.74	397.35	294.57	190.36	162.23	190.36	294.57	397.35	580.74	1304.24	3830.12	4599.53	4983.06	4632.33	3946.26	3643.6	3578.03
38	3698.51	3777.96	4092.28	4709.71	5059.75	4607.89	3783.36	1219.6	577.44	393.65	282.4	172.34	144.48	172.34	282.4	393.65	577.44	1219.6	3783.36	4607.89	5059.75	4709.71	4092.28	3777.96	3698.51
39	3803.43	3902.31	4234.47	4775.19	5119.44	4604.92	3732.86	1142.94	571.91	392.26	264.73	155.39	127.8	155.39											

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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.	ALEDS3T	Sample ID.	D1
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	0.680	81.6	0.999	1.96%
277.06	60	0.297	79.3	0.965	7.70%

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*****