

Photometric Test Report

Relevant Standards

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

Prepared For

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2021/11/24

Issue Date

2021/12/1

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		27332
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	160.5
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		170.3
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	4.63%
		20.00%	277V	12.89%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.997
		0.9	277V	0.931
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3985±275	3959
		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		84
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%		-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%		0.34%
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		1.423
(Goniophotometer - Section 4.2)		Non-Worst Case		0.644
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		170.3
(Goniophotometer - Section 4.2)		Non-Worst Case		166.3

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/11/24	ALEDL5TN	E1
2	Goniophotometer Test	2021/11/24	ALEDL5TN	E1
3	THD and PF Test	2021/11/24	ALEDL5TN	E1

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.

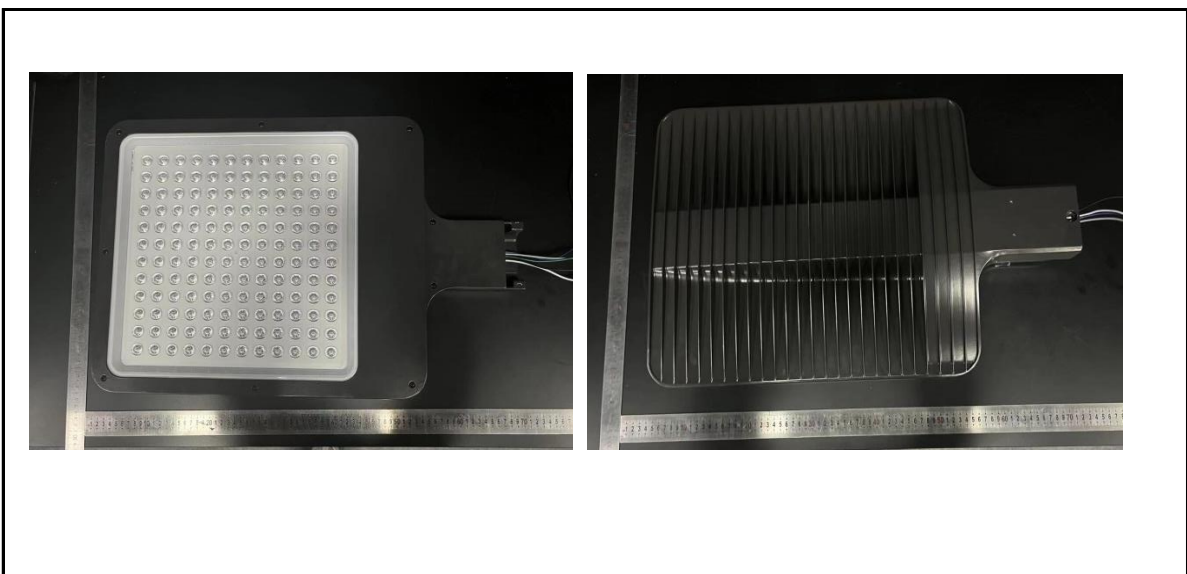
3.0 Production Description

Luminaire Description: ALEDL5TN

Description: 170W/24,000 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.	ALEDL5TN	Sample ID.	E1
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
119.97	60	1.413	169.1	0.997
276.93	60	0.642	165.6	0.931

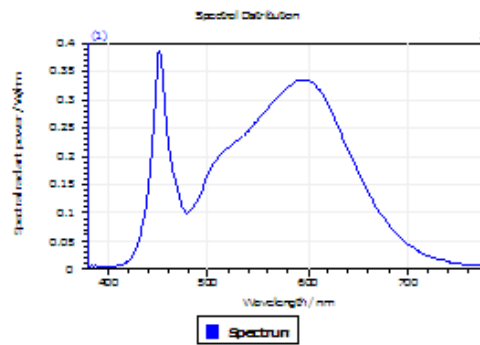
Test Result

CCT (K)	CRI	R9	Duv
3959	84	11	0.00016

Rf	Rg	IES Rcs,h1
84	95	-12%

4.1 Integrating Sphere Test

Results



Spectral values

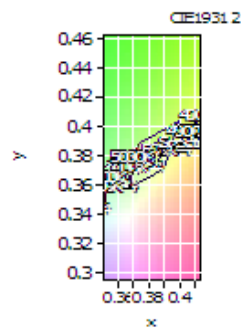
DominantWavelength	579.14 nm
Purity	0.283
PeakWavelength	451.64 nm
Radiant Power	58.48 W
Width50%	19.65 nm

Color Coordinates

Correlated Color Temperat: 3959 K

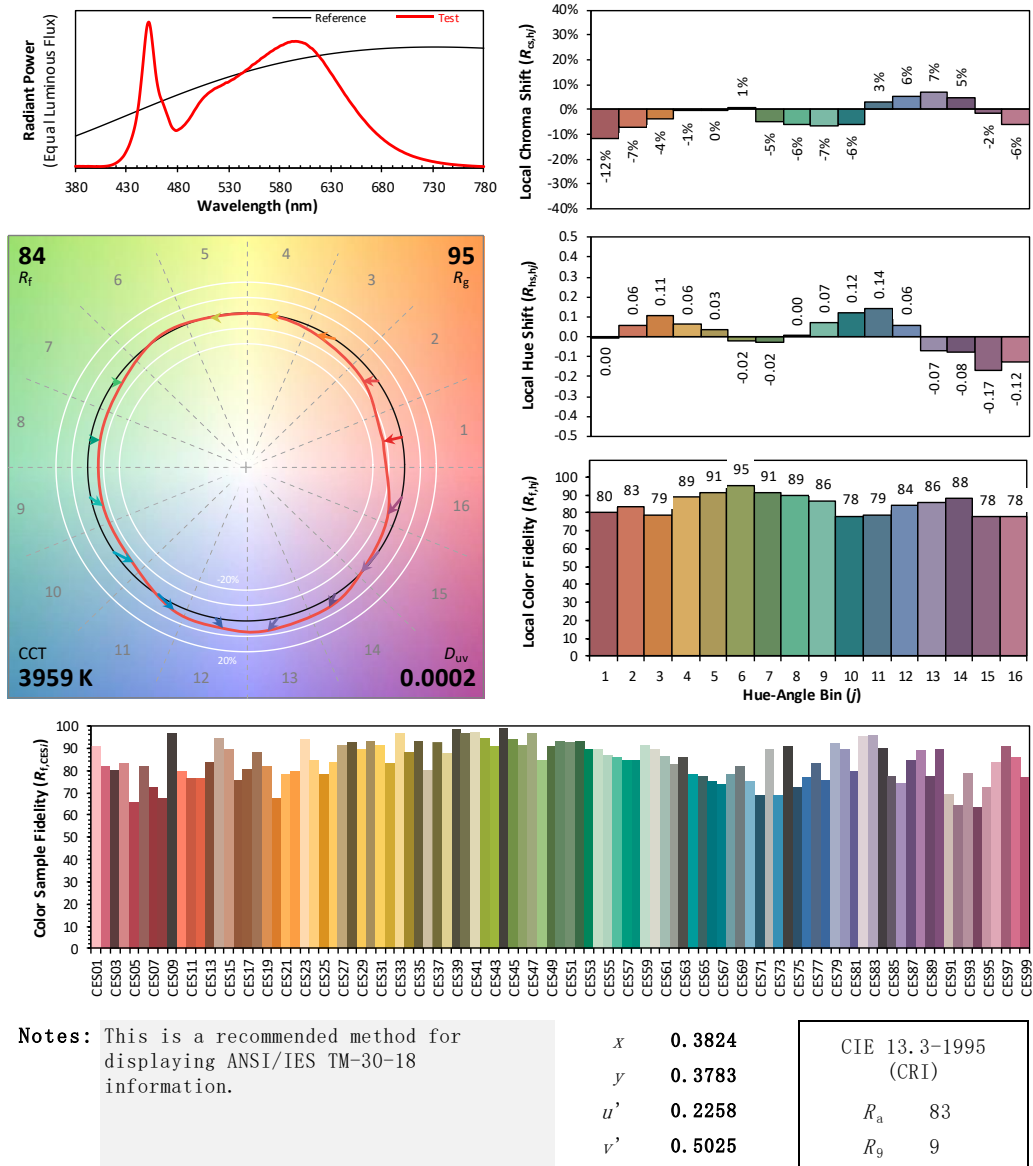
x: 0.3824 u: 0.2258 u': 0.2258
y: 0.3783 v: 0.3350 v': 0.5026

ResultsCRICRI01	82.1	ResultsCRICRI09	11.0
ResultsCRICRI02	90.1	ResultsCRICRI10	76.3
ResultsCRICRI03	95.6	ResultsCRICRI11	81.6
ResultsCRICRI04	82.6	ResultsCRICRI12	62.5
ResultsCRICRI05	82.2	ResultsCRICRI13	84.1
ResultsCRICRI06	85.9	ResultsCRICRI14	97.9
ResultsCRICRI07	86.4	ResultsCRICRI15	76.2
ResultsCRICRI08	65.5	ResultsCRICRI16	73.6
ResultsCRI	83.8		



PlanckDistance 1.6E-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.	ALEDL5TN	Sample ID.	E1
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	120.08	60	1.423	170.3	0.997
NON-WROST CASE	277.04	60	0.644	166.3	0.932

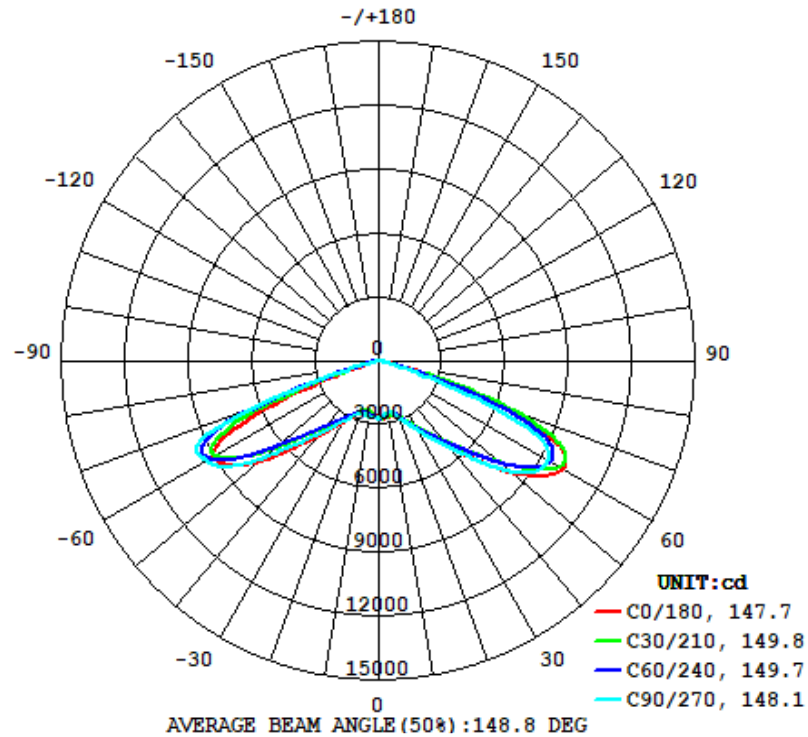
Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
27332	155.0	154.4	147.7	148.1	160.5

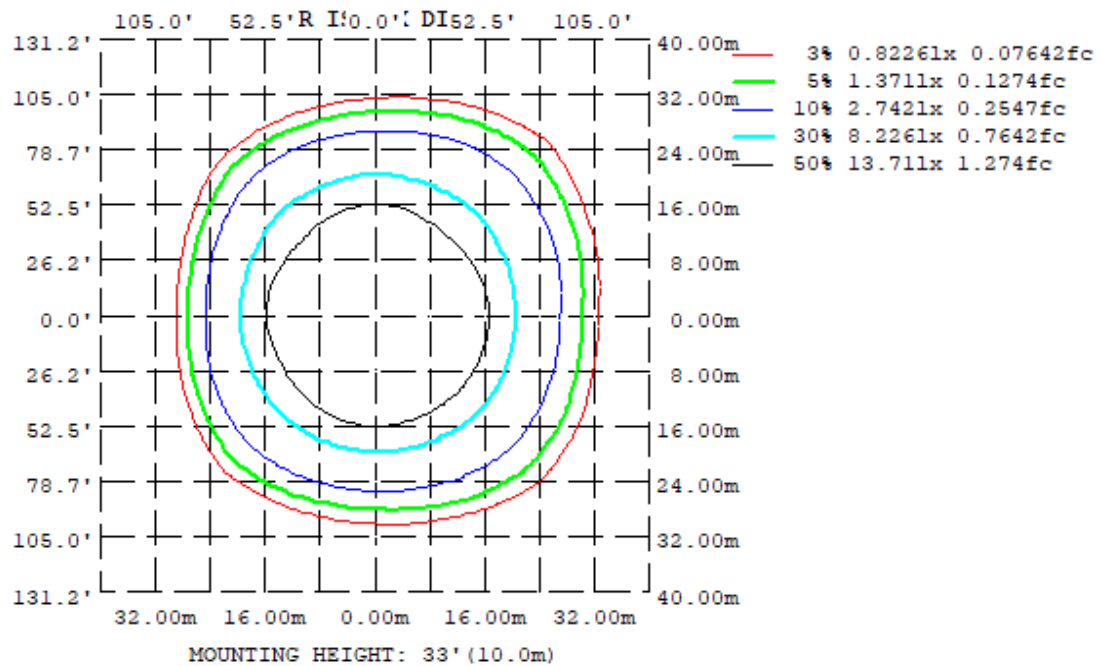
Zonal Lumen Requirement (0° - 90°)	Zonal Lumen Requirement (80° - 90°)	BUG rating
100.00%	0.34%	B4-U0-G4

4.2 Goniophotometer Test

Light Distribution Curve



Isolux Plot



4.2 Goniophotometer Test

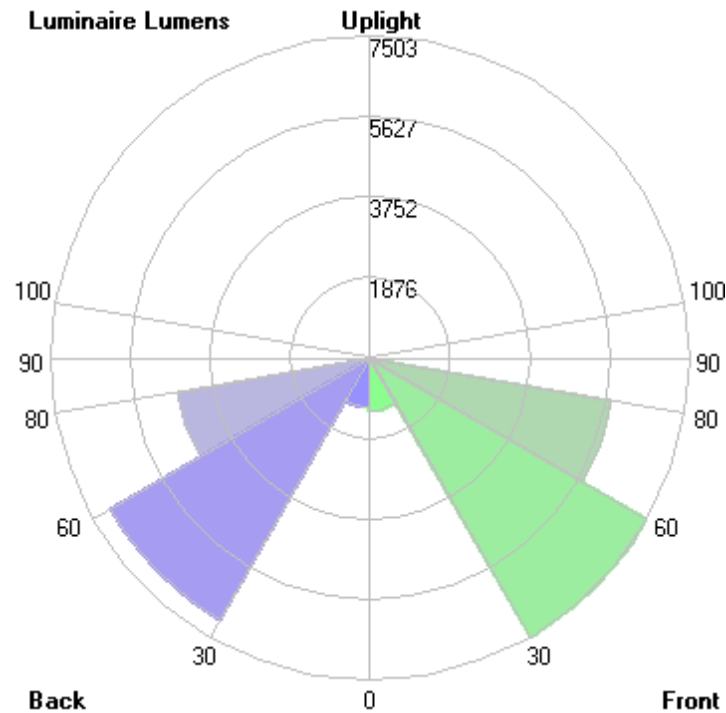
Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	273.6	261.9	248.9	249.2	244.8	255.1	269.9	276.7
20	283.1	278.3	284.2	260.5	257.8	251.0	266.6	276.0
30	371.4	358.1	378.2	328.1	330.7	297.9	325.1	323.0
40	533.7	487.1	539.9	443.7	471.2	395.2	453.9	429.9
50	815.2	715.3	810.6	650.4	736.6	590.3	701.3	625.9
60	1010	992.3	929.8	906.3	902.9	930.9	942.1	954.3
70	608.6	689.2	389.2	517.3	297.0	575.3	548.5	832.9
80	20.97	28.95	12.94	19.04	11.10	20.01	13.27	33.12
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: *10cd							

	Zonal (lm)		Total (lm)	Percent
0-10	254.36	0 - 10	254.36	0.93%
10-20	738.49	0 - 20	992.85	3.63%
20-30	1398.99	0 - 30	2391.84	8.75%
30-40	2511.36	0 - 40	4903.20	17.94%
40-50	4469.24	0 - 50	9372.44	34.29%
50-60	7546.82	0 - 60	16919.26	61.90%
60-70	8317.46	0 - 70	25236.72	92.33%
70-80	2000.93	0 - 80	27237.65	99.66%
80-90	94.14	0 - 90	27331.79	100.00%
90-100	0.00	0 - 100	27331.79	100.00%
100-110	0.00	0 - 110	27331.79	100.00%
110-120	0.00	0 - 120	27331.79	100.00%
120-130	0.00	0 - 130	27331.79	100.00%
130-140	0.00	0 - 140	27331.79	100.00%
140-150	0.00	0 - 150	27331.79	100.00%
150-160	0.00	0 - 160	27331.79	100.00%
160-170	0.00	0 - 170	27331.79	100.00%
170-180	0.00	0 - 180	27331.79	100.00%

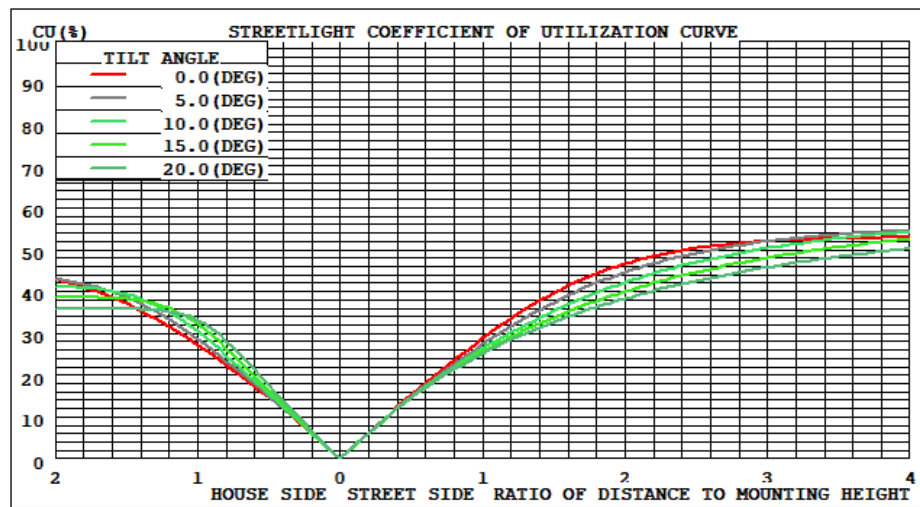
4.2 Goniophotometer Test

LCS/BUG

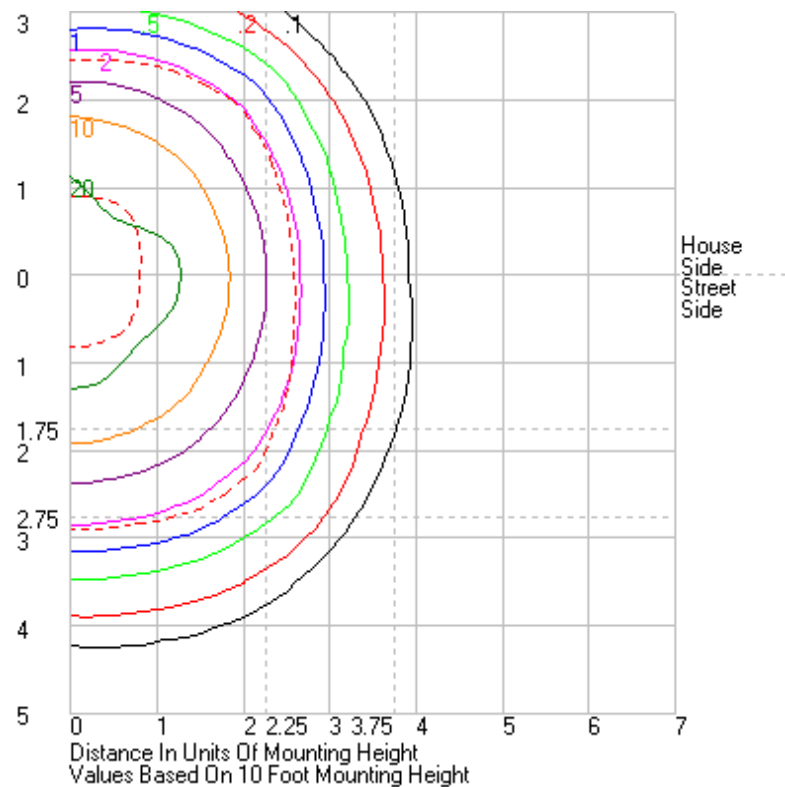


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	1235.2	N.A.	4.5
FM - Front-Medium (30-60)	7503.2	N.A.	27.5
FH - Front-High (60-80)	5740.1	N.A.	21.0
FVH - Front-Very High (80-90)	57.8	N.A.	0.2
BL - Back-Low (0-30)	1156.6	N.A.	4.2
BM - Back-Medium (30-60)	7024.2	N.A.	25.7
BH - Back-High (60-80)	4578.3	N.A.	16.8
BVH - Back-Very High (80-90)	36.3	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	27331.7	N.A.	100.0
BUG Rating	B4-U0-G4		

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	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63	2745.63
1	2745.43	2749.1	2751.63	2752.89	2752.41	2749.67	2747.92	2746.15	2744.54	2743.27	2742.09	2741.65	2708.36	2711.36	2715.52	2722.3	2730.21	2736.41	2744.03	2751.48	2758.79	2764.76	2770.54	2774.85	2745.43
2	2756.88	2759.46	2759.34	2756.21	2750.9	2742.61	2736.76	2730.54	2726.92	2726.07	2724.92	2724.36	2689.99	2691	2695.45	2703.36	2713.98	2724.76	2737.75	2750.27	2762.55	2773.46	2781.52	2787.29	2756.88
3	2762.06	2762.95	2758.07	2751.13	2742.74	2730.83	2720.53	2711.36	2706.1	2704.15	2704.18	2703.4	2670.33	2670.55	2676.04	2685.05	2695.43	2709.26	2726.69	2743.77	2761.55	2776.27	2788.72	2793.35	2762.06
4	2767.42	2765.01	2752.61	2740.36	2729.03	2716.88	2702.53	2691.42	2686.21	2682.44	2679.52	2676.57	2645.79	2645.28	2654.9	2665.86	2679.01	2696.96	2719.84	2740.41	2758.49	2773.34	2789.92	2799.84	2767.42
5	2768.85	2762.44	2746.65	2727.64	2710.26	2691.19	2673.13	2662.11	2660.56	2658.7	2651.1	2643.9	2614.19	2614.1	2628.65	2647.74	2668.2	2691.03	2717.83	2740.64	2759.15	2772.43	2790.48	2802.49	2768.85
6	2768.41	2758.52	2738.93	2714.03	2682.83	2655.7	2632.8	2625.05	2629.86	2632.6	2620.62	2608.51	2577.42	2580.01	2598.67	2626.85	2659.43	2685.09	2714.84	2739.93	2758.63	2770.85	2786.58	2802.2	2768.41
7	2763.08	2750.21	2729.55	2694.13	2647.39	2610.91	2584.05	2580.88	2591.6	2599.9	2587.39	2573.97	2538.83	2543.88	2567.09	2608.07	2650.42	2680.11	2713.08	2739.29	2756.87	2769.28	2780.7	2798.83	2763.08
8	2758.71	2742.77	2716.31	2670.52	2609.58	2565.76	2540.1	2535.46	2549.29	2562.62	2554.39	2541.58	2503.58	2510.03	2539.08	2588.85	2640.83	2677.3	2711.18	2738.98	2755.94	2767.27	2776.5	2795.44	2758.71
9	2750.97	2736.35	2705.96	2646.34	2575.42	2536.38	2509.9	2502.61	2511.23	2528.41	2522.84	2511.52	2472.68	2478.75	2513.39	2569.28	2630.67	2671.08	2706.25	2735.31	2753.22	2766.62	2773.12	2788.15	2750.97
10	2735.87	2726.99	2695.18	2618.99	2552.29	2514.31	2489.28	2477.33	2478.64	2492.16	2492.67	2487.23	2447.64	2452.57	2489.66	2550.76	2620.3	2662.41	2698.59	2728.64	2750.76	2767.27	2769.22	2773.9	2735.87
11	2718.21	2711.84	2683.66	2599.08	2538	2504.7	2480.27	2463.35	2456.07	2463.5	2469.39	2465.23	2426.23	2431.76	2468.6	2533.18	2608.17	2650.01	2687.39	2718.8	2746.26	2767.06	2761.94	2754.97	2718.21
12	2702.96	2699.58	2670.67	2588.22	2534.34	2504.06	2481.45	2459.18	2446.09	2444.52	2450.89	2446.44	2413.03	2419.28	2451.13	2513.09	2592.9	2635.69	2676.05	2708.74	2741.3	2767.87	2755.42	2736.54	2702.96
13	2694.55	2692.37	2661	2585.98	2539.5	2513.32	2492.93	2465.1	2444.5	2433.58	2439.38	2437.82	2406.58	2413.57	2438.74	2494.94	2576.87	2621.84	2665.39	2698.01	2736.35	2764.46	2746.65	2725.02	2694.55
14	2693.46	2692.11	2659.37	2593.41	2552.38	2531.8	2513.97	2479.91	2451.49	2432.97	2437.95	2437.46	2407.75	2413.16	2431.17	2481.56	2560.58	2609.2	2654.7	2686.05	2728.72	2759.53	2740.64	2722.15	2693.46
15	2697.84	2697.42	2664.25	2608.11	2571.69	2561.27	2545.74	2505.21	2468.4	2441.17	2446.07	2444.06	2416.5	2418.11	2429.85	2473.36	2546.42	2599.29	2646.08	2676.74	2721.2	2755.29	2737.49	2727	2697.84
16	2708.54	2708.8	2676.41	2628.65	2600.01	2602.77	2591.11	2541.25	2495.84	2458.67	2462.18	2458.38	2432.6	2428.31	2435.43	2469.58	2535.99	2590.5	2639.06	2668.95	2713.73	2749.19	2740.34	2737.47	2708.54
17	2726.85	2725.12	2695.17	2656.17	2637.2	2648.23	2641.48	2582.34	2528.34	2482.83	2486	2479.82	2457.12	2444.38	2445.57	2471.49	2531.41	2583.47	2635	2665.03	2706.1	2746.25	2750.03	2752.5	2726.85
18	2752.57	2748.02	2722.3	2691.62	2683.38	2710.23	2704.46	2636.13	2572.77	2518.48	2516.25	2508.75	2490.46	2468.25	2459.99	2478.64	2533.82	2582.48	2635.95	2665.54	2702.52	2745.64	2763.22	2772.69	2752.57
19	2786.78	2779.5	2758.93	2733.29	2739.97	2771.3	2771.74	2692.79	2621.13	2558.1	2553.88	2545.95	2530.74	2501	2479.85	2492.02	2542.06	2591.04	2647.08	2672.26	2705.4	2750.16	2780.8	2799.35	2786.78
20	2831.01	2819.59	2802.26	2782.77	2800.19	2841.78	2842.09	2754.38	2675.12	2604.5	2598.34	2589.24	2577.56	2539.07	2507.46	2509.68	2558.65	2607.65	2665.53	2687.08	2716.74	2760.45	2802.66	2834.25	2831.01
21	2884.4	2868.55	2855.65	2841.19	2869.93	2920.57	2922.57	2828.55	2736.78	2657.39	2647.38	2637.5	2631.24	2584.54	2542.08	2533.25	2580.83	2632.05	2693.14	2710.44	2734.38	2776.1	2830.31	2876.88	2884.4
22	2945.18	2926.17	2913.67	2903.07	2940.97	2992.43	2996.71	2895.04	2796.58	2707.72	2702.1	2691.46	2693.12	2636.24	2584.29	2564.43	2610.75	2665.88	2729.79	2741.92	2759.61	2799.79	2865.11	2927.13	2945.18
23	3016.52	2993.45	2981.97	2975.47	3020.01	3081.68	3084.77	2976.75	2869.35	2771.65	2760.4	2751.77	2761.85	2695.36	2633.37	2603.21	2649	2703.34	2772.03	2779.94	2792.21	2830.73	2907.78	2985.99	3016.52
24	3094.83	3069.32	3056.79	3048.95	3101.13	3166.82	3173.55	3059.42	2941.04	2833.05	2818.93	2815.59	2830.99	2758.65	2687.32	2648.29	2692.36	2751.37	2822.58	2824.79	2832.07	2868.96	2958.64	3052.17	3094.83
25	3182.81	3153.91	3137.06	3126.69	3185.95	3254.24	3259.25	3138.87	3013.93	2897.12	2885.55	2883.29	2901.65	2822.34	2743.39	2697.82	2744.55	2806.96	2881.45	2878.45	2878.87	2912.41	3016.28	3123	3182.81
26	3278.91	3245.92	3223.74	3210.18	3276.35	3355.98	3362.62	3235.64	3098.13	2969.87	2949.15	2952.73	2973.38	2887.78	2802.61	2749.54	2798.92	2865.45	2945.37	2938.34	2931.03	2965.5	3079.95	3202.1	3278.91
27	3378.13	3343.11	3313.95	3296.17	3367.44	3446.58	3456.64	3324.61	3175.03	3038.57	3022.27	3027.42	3047.58	2956.02	2863.39	2803.17	2855.31	2932.54	3017.36	3005.94	2991.15	3023.51	3149.51	3284.78	3378.13
28	3485.95	3447.75	3411.34	3390.39	3465.47	3554.96	3563.1	3421.75	3362.88	3120.59	3093.88	3107.25	3124.75	3025.91	2923.1	2860.28	2915.69	2998.91	3093.41	3077.63	3056.48	3088.03	3223.08	3372.65	3485.95
29	3597.1	3554.59	3508.11	3481.78	3565.49	3660.32	3676.19	3527.28	3351.46	3198.41	3169.09	3187.46	3212.01	3103.97	2987.61	2917.81	2976.69	3070.87	3170.98	3153.57	3124.95	3156.9	3304.22	3469.1	3597.1
30	3714.05	3670.48	3611.51	3581.34	3666.33	3763.49	3781.85	3625.53	3440.22	3281.09	3253.78	3280.24	3307.1	3189.24	3058.37	2979.12	3043.17	3145	3250.69	3235.97	3201.8	3229.61	3389.83	3572.6	3714.05
31	3833.58	3789.37	3718.53	3681.23	3771.89	3893.49	3920.9	3753.56	3548.61	3379.25	3339.36	3375.7	3407.89	3280.35	3133.84	3047.09	3109.36	3218.66	3334.15	3316.17	3277.82	3308.73	3479.18	3680.92	3833.58
32	3960.41	3907.06	3823.49	3781.64	3878.57	4013.65	4051.08	3874.94	3647.45	3467.77	3432.83	3480	3523.19	3382.45	3217.83	3121.62	3184.61	3307.12	3425.99	3404.83	3361.41	3394.55	3578.73	3797.14	3960.41
33	4095.56	4036.45	3939.21	3894.03	3999.3	4151.94	4195.67	4007.53	3763.99	3576.81	3533.44	3592.28	3641.68	3493.07	3306.99	3204.54	3268.9	3399.65	3530.12	3500.73	3447.88	3482.97	3680.96	3921.29	4095.56
34	4243.4	4176.93	4059.77	4008.21	4122.81	4303.04	4359.52	4160.32	3889.1	3682.22	3639.01	3711.76	3774.49	3609.69	3403.77	3292.88	3355.47	3502.72	3646.23	3606.73	3538.15	3577.28	3790.03	4052.62	4243.4
35	4404.52	4327.83	4192.47	4135.07	4250.69	4441.55	4503.96	4294.78	4005.79	3790.63	3749.32	3842.54	3916.32	3740.1	3510.5	3388.03	3454.36	3619.53	3774.81	3725.78	3640.21	3677.05	3907.15	4159.58	4404.52
36	4572.85	4490.11	4334.21	4271.04	4395.12	4615.26	4680.79	4461.74	4148.82	3918.22	3865.97	3977.77	4063.32	3878.96	3622.26	3488.56	3556.54	3741.25	3911.79	3852.36	3745.99	3788.62	4032.43	4348.01	4572.85
37	4753.09	4660.9	4483.02	4406.93	4539.7	4774.38	4850.22	4624.84	4277.91	4034.43	3991.31	4123.8	4217.47	4024.68	3742.88	3595.74	3664.66	3881.9	4057.83	3991.76	3862.79	3905.16	4166.07	4505.95	4753.09
38	4941.6	4838.9	4637.65	4555.23	4692.39	4940.08	5017.52	4781.72	4420.75	4166.47	4114.81	4269.58	4378.67	4178.27											

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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.	ALEDL5TN	Sample ID.	E1
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
119.97	60	1.413	169.1	0.997	4.63%
276.93	60	0.642	165.6	0.931	12.89%

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*****