

Photometric Test Report

Relevant Standards

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

Prepared For

RAB Lighting Inc.

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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		19467
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	132.8
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		146.6
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%		4.71%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9		0.960
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3045±175	2937
		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		98
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%		2.89%
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		0.318
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		146.6

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2023/1/13	ALEDM4TY/480	AA1
2	Goniophotometer Test	2023/1/13	ALEDM4TY/480	AA1
3	THD and PF Test	2023/1/13	ALEDM4TY/480	AA1

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.

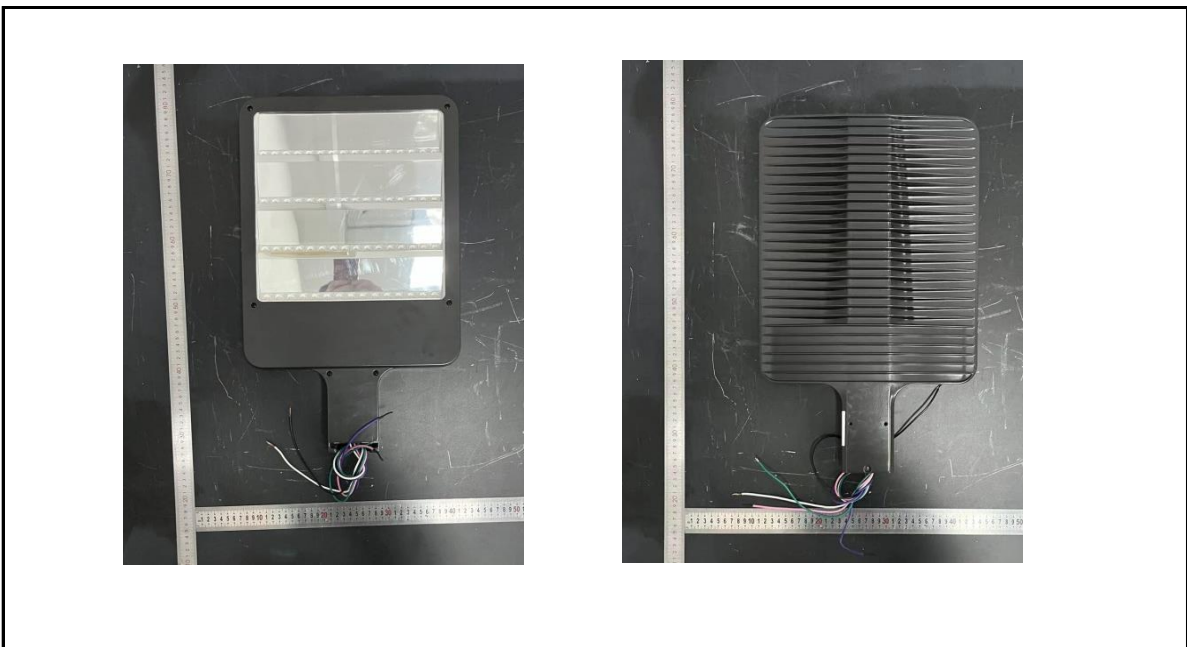
3.0 Production Description

Luminaire Description: ALEDM4TY/480

Description: 150W @ 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.	ALEDM4TY/480	Sample ID.	AA1
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
480.09	60	0.320	147.3	0.960

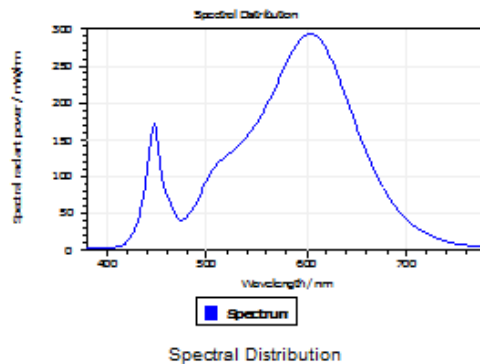
Test Result

CCT (K)	CRI	R9	Duv
2937	82	4	0.0021

Rf	Rg	IES Rcs,h1
83	98	-12%

4.1 Integrating Sphere Test

Results

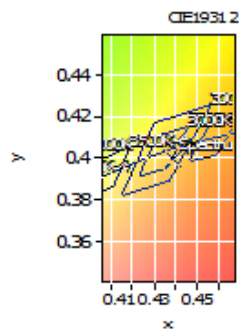


Spectral values

DominantWavelength 583.84 nm
Purity 0.515
PeakWavelength 603.70 nm
Radiant Power 42.87 W
Width50%:

Color Coordinates

Correlated Color Temporal 2937 K
x: 0.4384 u: 0.2535 u': 0.2535
y: 0.3994 v: 0.3465 v': 0.5198
CRI01 80.1 CRI09 4.0
CRI02 90.0 CRI10 77.8
CRI03 96.4 CRI11 80.3
CRI04 80.6 CRI12 74.2
CRI05 80.8 CRI13 82.2
CRI06 88.1 CRI14 98.6
CRI07 81.7 CRI15 72.7
CRI08 57.5 CRI16 70.8
ResultsCRI 81.9



PlanckDistance 2.1E-003

4.1 Integrating Sphere Test

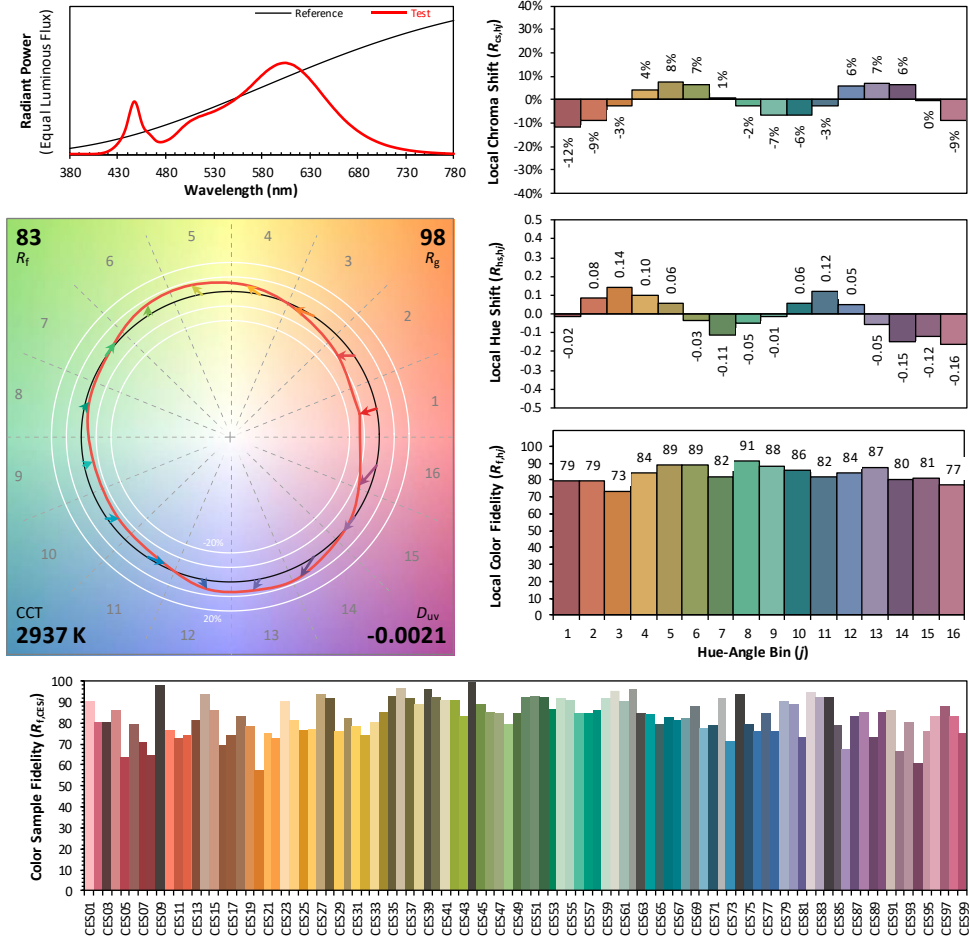
IES TM-30-18 Color Rendition Report

Source: DLF2301106-27a

Manufacturer: RAB Lighting Inc.

Date: 2023/1/13

Model: ALEDM4TY/480



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

x 0.4384
 y 0.3994
 u' 0.2535
 v' 0.5197

CIE 13.3-1995
(CRI)

R_a 82
 R_9 3

lors 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.	ALEDM4TY/480	Sample ID.	AA1
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	479.95	60	0.318	146.6	0.960

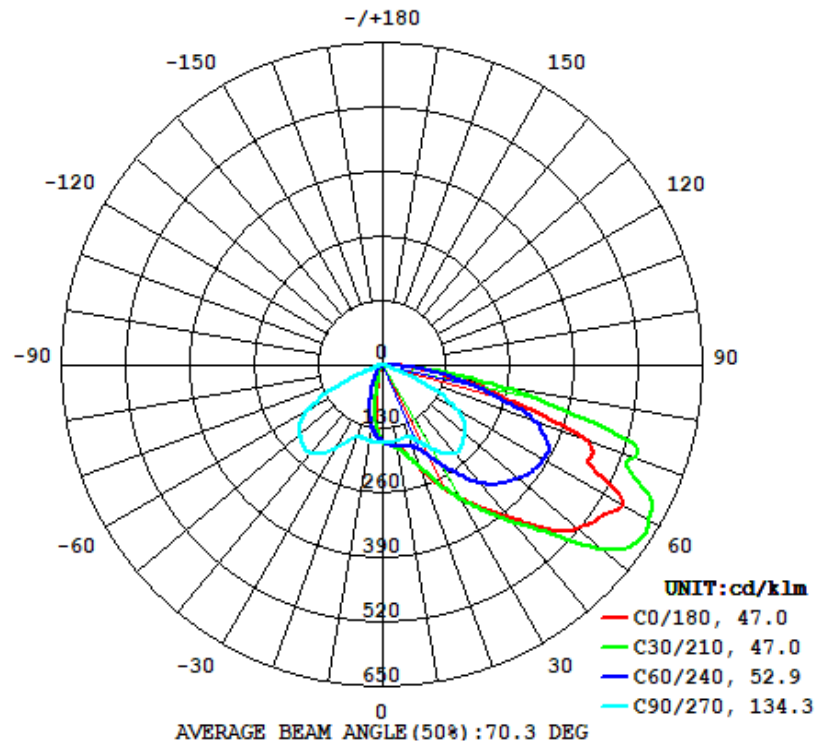
Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
19467	97.0	148.1	47.0	134.3	132.8

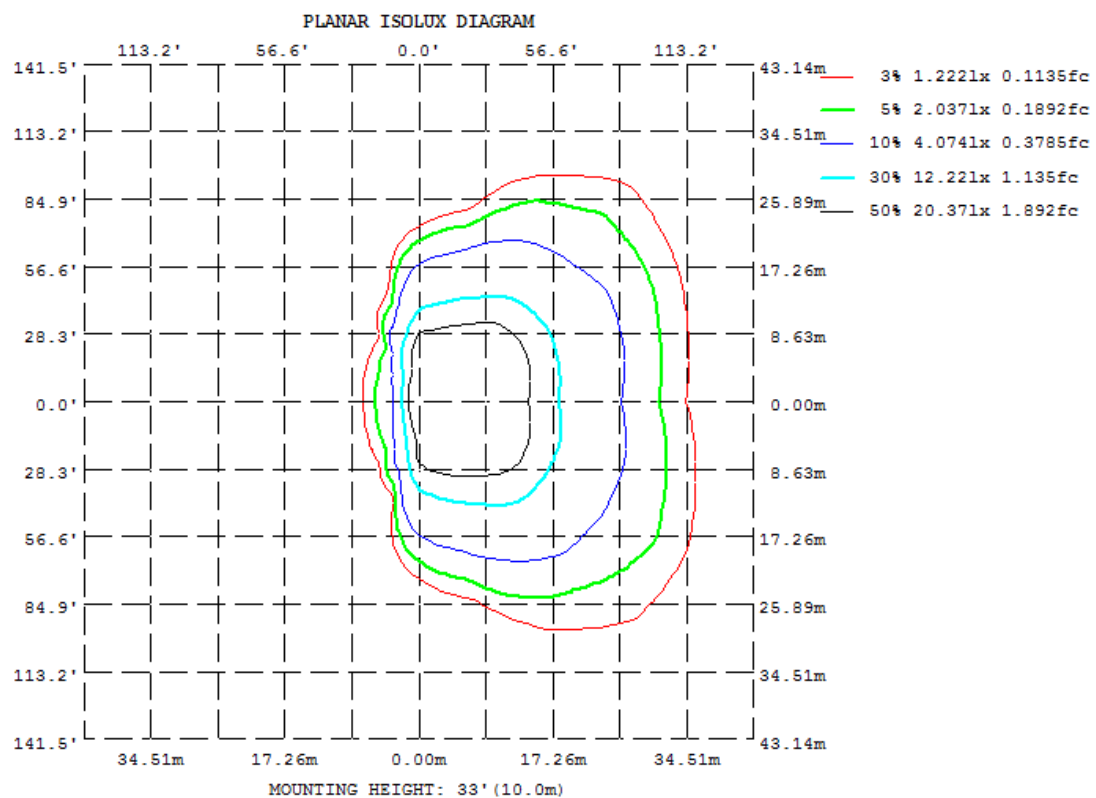
Zonal Lumen Requirement (0° - 90°)	Zonal Lumen Requirement (80° - 90°)	BUG rating
100.00%	2.89%	B2-U0-G4

4.2 Goniophotometer Test

Light Distrubtion Curve



Isolux Plot



4.2 Goniophotometer Test

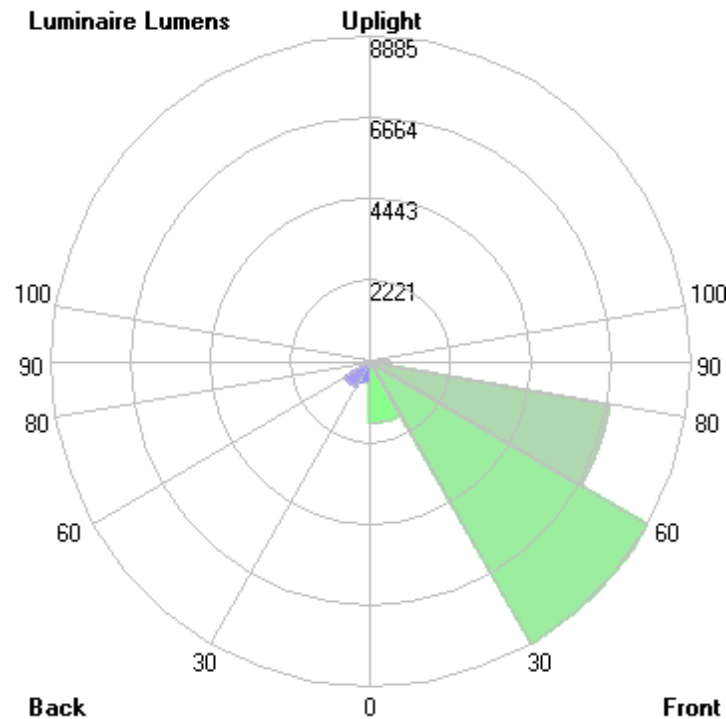
Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	167.5	170.0	157.3	110.1	81.38	110.1	157.3	170.0
20	219.1	195.9	155.9	44.27	22.62	44.27	155.9	195.9
30	308.7	269.0	194.7	20.67	15.04	20.67	194.7	269.0
40	403.1	369.2	232.7	14.93	8.986	14.93	232.7	369.2
50	514.3	464.9	219.5	9.281	3.513	9.281	219.5	464.9
60	563.1	558.2	171.4	4.867	2.394	4.867	171.4	558.2
70	433.6	467.9	40.43	3.250	1.568	3.250	40.43	467.9
80	135.7	228.4	7.917	1.647	1.176	1.647	7.917	228.4
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/klm							

	Zonal (lm)		Total (lm)	Percent
0-10	274.72	0 - 10	274.72	1.41%
10-20	725.41	0 - 20	1000.13	5.14%
20-30	1284.67	0 - 30	2284.80	11.74%
30-40	2195.66	0 - 40	4480.46	23.02%
40-50	3272.64	0 - 50	7753.10	39.83%
50-60	4222.44	0 - 60	11975.54	61.52%
60-70	4188.69	0 - 70	16164.23	83.03%
70-80	2739.5	0 - 80	18903.73	97.11%
80-90	563.04	0 - 90	19466.77	100.00%
90-100	0.00	0 - 100	19466.77	100.00%
100-110	0.00	0 - 110	19466.77	100.00%
110-120	0.00	0 - 120	19466.77	100.00%
120-130	0.00	0 - 130	19466.77	100.00%
130-140	0.00	0 - 140	19466.77	100.00%
140-150	0.00	0 - 150	19466.77	100.00%
150-160	0.00	0 - 160	19466.77	100.00%
160-170	0.00	0 - 170	19466.77	100.00%
170-180	0.00	0 - 180	19466.77	100.00%

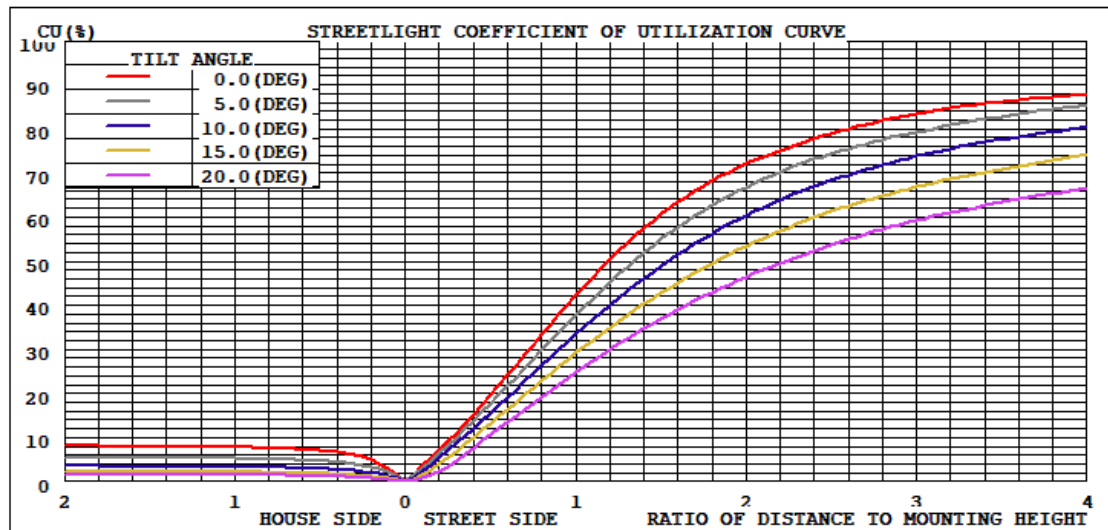
4.2 Goniophotometer Test

LCS/BUG

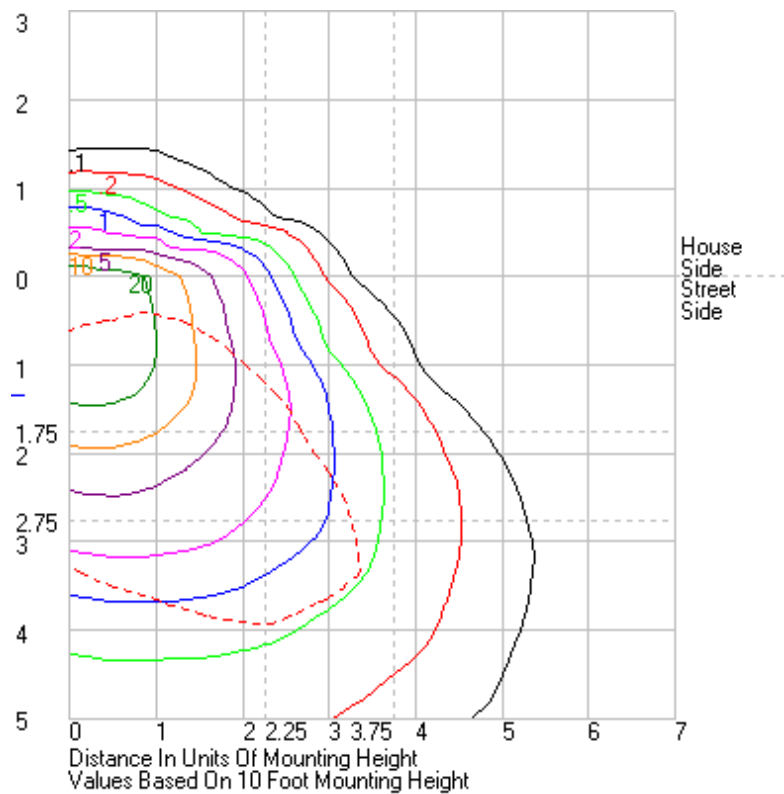


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	1679.0	N.A.	8.6
FM - Front-Medium (30-60)	8885.1	N.A.	45.6
FH - Front-High (60-80)	6755.4	N.A.	34.7
FVH - Front-Very High (80-90)	551.6	N.A.	2.8
BL - Back-Low (0-30)	605.8	N.A.	3.1
BM - Back-Medium (30-60)	805.7	N.A.	4.1
BH - Back-High (60-80)	172.8	N.A.	0.9
BVH - Back-Very High (80-90)	11.5	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	19466.9	N.A.	100.0
BUG Rating	B2-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	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15	3045.15
1	3093.69	3089.12	3086.4	3081.33	3072.97	3061.85	3047.8	3031.29	3014.53	2998.96	2987	2977.7	2977.25	2977.7	2987	2998.96	3014.53	3031.29	3047.8	3061.85	3072.97	3081.33	3086.4	3089.12	3093.69
2	3124.68	3118.75	3115.54	3108.11	3095.61	3077.21	3051.87	3017.9	2982.58	2949.64	2922.46	2904.16	2897.78	2904.16	2922.46	2949.64	2982.58	3017.9	3051.87	3077.21	3095.61	3108.11	3115.54	3118.75	3124.68
3	3146.73	3141.78	3140.22	3133.88	3120.14	3095.86	3057.21	3002.59	2945	2889.95	2840.36	2802.64	2788.16	2802.64	2840.36	2889.95	2945	3002.59	3057.21	3095.86	3120.14	3133.88	3140.22	3141.78	3146.73
4	3162.07	3157.89	3160.49	3158.47	3144.5	3114.82	3062.48	2987.09	2906.8	2819.05	2736.88	2680.82	2658.61	2680.82	2736.88	2819.05	2906.8	2987.09	3062.48	3114.82	3144.5	3158.47	3160.49	3157.89	3162.07
5	3171.19	3169.69	3179.28	3182	3168.67	3133.5	3067.87	2968.58	2857.56	2730.77	2620.47	2542.57	2509.13	2542.57	2620.47	2730.77	2857.56	2968.58	3067.87	3133.5	3168.67	3182	3179.28	3169.69	3171.19
6	3178.19	3179.38	3196.73	3207.32	3194.24	3152	3071.5	2947.08	2796.94	2632.28	2483.55	2376.8	2331.26	2376.8	2483.55	2632.28	2796.94	2947.08	3071.5	3152	3194.24	3207.32	3196.73	3179.38	3178.19
7	3189.07	3193.48	3215.69	3230.95	3218.56	3169.33	3073.82	2925.23	2733.82	2527.47	2336.1	2204.35	2150.39	2204.35	2336.1	2527.47	2733.82	2925.23	3073.82	3169.33	3218.56	3230.95	3215.69	3193.48	3189.07
8	3204.11	3212.44	3239.93	3256.17	3242.09	3185	3073.37	2895.56	2660.41	2402.46	2171.9	2017.98	1954.3	2017.98	2171.9	2402.46	2660.41	2895.56	3073.37	3185	3242.09	3256.17	3239.93	3212.44	3204.11
9	3228.31	3239.6	3269.72	3283.11	3262.38	3194.69	3067.84	2862.78	2584.25	2277.13	2007.46	1835.05	1768.31	1835.05	2007.46	2277.13	2584.25	2862.78	3067.84	3194.69	3262.38	3283.11	3269.72	3239.6	3228.31
10	3260.55	3277.42	3306.78	3310.07	3278.17	3201.38	3061.27	2826.19	2499.77	2142.39	1845.2	1656.99	1584.23	1656.99	1845.2	2142.39	2499.77	2826.19	3061.27	3201.38	3278.17	3310.07	3306.78	3277.42	3260.55
11	3306.96	3328.62	3354.65	3340.95	3290.74	3204.86	3051.05	2784.46	2406.69	2000.94	1676.97	1470.52	1410.27	1470.52	1676.97	2000.94	2406.69	2784.46	3051.05	3204.86	3290.74	3340.95	3354.65	3328.62	3306.96
12	3360.82	3387.56	3414.07	3372.17	3300.34	3205.01	3038.82	2742.27	2316.77	1869.13	1518.17	1298.52	1236.3	1298.52	1518.17	1869.13	2316.77	2742.27	3038.82	3205.01	3300.34	3372.17	3410.07	3387.56	3360.82
13	3430.77	3460.85	3475.83	3408.48	3309.29	3204.48	3028.37	2696.91	2212.26	1726	1356.93	1139.94	1068.95	1139.94	1356.93	1726	2212.26	2696.91	3028.37	3204.48	3309.29	3408.48	3475.83	3460.85	3430.77
14	3528.76	3556.55	3548.84	3447.92	3316.2	3203.2	3016.72	2650.7	2109.58	1589.33	1202.45	982.49	907.62	982.49	1202.45	1589.33	2109.58	2650.7	3016.72	3203.2	3316.2	3447.92	3548.84	3556.55	3528.76
15	3627.12	3665.38	3635.15	3488.03	3324.96	3201.83	3008.11	2605.77	2009.12	1453.57	1065.63	841.13	773.33	841.13	1065.63	1453.57	2009.12	2605.77	3008.11	3201.83	3324.96	3488.03	3635.15	3665.38	3627.12
16	3744.32	3785.13	3746.64	3535.9	3337.47	3204.75	3001.18	2558.84	1900.1	1318	922.77	714.36	655.09	714.36	922.77	1318	1900.1	2558.84	3001.18	3204.75	3337.47	3535.9	3746.64	3785.13	3744.32
17	3863.31	3912.37	3862.24	3588.24	3352.54	3210.06	2998.06	2516.9	1822.16	1194.3	801.01	617.44	564.35	617.44	801.01	1194.3	1822.16	2516.9	2998.06	3210.06	3352.54	3588.24	3862.24	3912.37	3863.31
18	3990.44	4051.64	3982.74	3653.35	3373.03	3220.9	3002.92	2477.03	1698.88	1075.3	694.06	538.64	497.95	538.64	694.06	1075.3	1698.88	2477.03	3002.92	3220.9	3373.03	3653.35	3982.74	4051.64	3990.44
19	4123.56	4191.93	4113.55	3730.02	3401.63	3238.17	3014.61	2440.71	1602.54	963.87	615.09	481.59	459.55	481.59	615.09	963.87	1602.54	2440.71	3014.61	3238.17	3401.63	3730.02	4113.55	4191.93	4123.56
20	4264.29	4338.99	4246.15	3813.68	3436.23	3264.47	3035.62	2410.32	1512.3	861.75	543.27	449.27	440.27	449.27	543.27	861.75	1512.3	2410.32	3035.62	3264.47	3436.23	3813.68	4246.15	4338.99	4264.29
21	4424.55	4500.32	4388.16	3909.46	3483.26	3301.71	3067.67	2381.24	1417.77	763.28	486.81	430.37	421.89	430.37	486.81	763.28	1417.77	2381.24	3067.67	3301.71	3483.26	3909.46	4388.16	4500.32	4424.55
22	4591.53	4671.88	4537.16	4012.32	3537.92	3353.01	3110.98	2358.68	1333.39	687.44	455.16	413.8	404.28	413.8	455.16	687.44	1333.39	2358.68	3110.98	3353.01	3537.92	4012.32	4537.16	4671.88	4591.53
23	4773.91	4856.88	4696.72	4127.54	3605.53	3418.74	3168.77	2342.22	1252.27	619.79	435.14	397.59	388.47	397.59	435.14	619.79	1252.27	2342.22	3168.77	3418.74	3605.53	4127.54	4696.72	4856.88	4773.91
24	4959.61	5051.73	4869.65	4257.64	3687.18	3495.26	3237.48	2325.53	1177.29	553.48	419.44	381.03	371.75	381.03	419.44	553.48	1177.29	2325.53	3237.48	3495.26	3687.18	4257.64	4869.65	5051.73	4959.61
25	5143.77	5244.71	5049.09	4390.15	3776.32	3582.86	3313.55	2315.2	1104.85	506.27	404.72	365.44	355.38	365.44	404.72	506.27	1104.85	2315.2	3313.55	3582.86	3776.32	4390.15	5049.09	5244.71	5143.77
26	5325.69	5446.55	5243.73	4538.36	3886.04	3680.95	3397.2	2298.81	1030.22	469.42	389.42	350.67	340.06	350.67	389.42	469.42	1030.22	2298.81	3397.2	3680.95	3886.04	4538.36	5243.73	5446.55	5325.69
27	5497.44	5639.7	5440.06	4696.31	4006.58	3787.37	3487.55	2286.79	960.64	445.75	374.8	337.91	327.34	337.91	374.8	445.75	960.64	2286.79	3487.55	3787.37	4006.58	4696.31	5440.06	5639.7	5497.44
28	5665.82	5829	5639.03	4864.51	4137.53	3903.52	3585.94	2275.49	890.43	428.75	361.05	326.34	315.55	326.34	361.05	428.75	890.43	2275.49	3585.94	3903.52	4137.53	4864.51	5639.03	5829	5665.82
29	5840.65	6014.59	5841.19	5050.45	4282.08	4026.95	3686.46	2259.98	820.39	415.01	348.42	314.9	304.04	314.9	348.42	415.01	820.39	2259.98	3686.46	4026.95	4282.08	5050.45	5841.19	6014.59	5840.65
30	6009.97	6199.7	6033.95	5237.19	4429.46	4152.34	3790.54	2247.69	753.32	402.4	337.41	304.05	292.82	304.05	337.41	402.4	753.32	2247.69	3790.54	4152.34	4429.46	5237.19	6033.95	6199.7	6009.97
31	6176.95	6389.35	6221.98	5436.12	4585.59	4281.56	3894.7	2226.13	693.45	389.01	326.7	292.92	281.22	292.92	326.7	389.01	693.45	2226.13	3894.7	4281.56	4585.59	5436.12	6221.98	6389.35	6176.95
32	6352.56	6579.89	6409.5	5635.3	4749.14	4412.55	4001.92	2202.85	637.06	376.19	316.18	281.55	269.63	281.55	316.18	376.19	637.06	2202.85	4001.92	4412.55	4749.14	5635.3	6409.5	6579.89	6352.56
33	6531.5	6777.55	6593.43	5834.67	4915.75	4547.3	4105.83	2172.8	585.84	364.07	305.77	270.2	257.88	270.2	305.77	364.07	585.84	2172.8	4105.83	4547.3	4915.75	5834.67	6593.43	6777.55	6531.5
34	6712.01	6985.35	6784.54	6036.47	5089.53	4676.9	4202.53	2131.5	537.4	352.24	294.92	258.59	245.93	258.59	294.92	352.24	537.4	2131.5	4202.53	4676.9	5089.53	6036.47	6784.54	6985.35	6712.01
35	6908.89	7196.26	6977.93	6233.64	5259.88	4799.93	4291.53	2089.21	498.93	341.93	284.3	247.15	234.4	247.15	284.3	341.93	498.93	2089.21	4291.53	4799.93	5259.88	6233.64	6977.93	7196.26	6908.89
36	7099.81	7416.86	7179.82	6426.55	5440.6	4915.3	4366.69	2035.47	467.76	331.74	273.32	235.65	222.61	235.65	273.32	331.74	467.76	2035.47	4366.69	4915.3	5440.6	6426.55	7179.82	7416.86	7099.81
37	7284.37	7641.31	7396.4	6618.94	5615.95	5015.04	4427.9	1975.18	439.58	321.64	262.17	224.09	210.85	224.09	262.17	321.64	439.58	1975.18	4427.9	5015.04	5615.95	6618.94	7396.4	7641.31	7284.37
38	7459.23	7861.38	7616.12	6804.87	5782.61	5101.23	4474.35	1911.57	417.63	311.98	251.36	212.77	199.19	212.77	251.36	311.98	417.63	1911.57	4474.35	5101.23	5782.61	6804.87	7616.12	7861.38	7459.23
39	7642.75	8083.6	7846.93	6993.61	5947.21	5172.5	4509.52																		

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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.	ALEDM4TY/480	Sample ID.	AA1
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
480.09	60	0.320	147.3	0.960	4.71%

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*****