

Photometric Test Report

Relevant Standards

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

Prepared For RAB Lighting Inc.

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Report Number

DLF2111105-4a

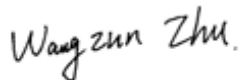
Test Date

2021/11/8

Issue Date

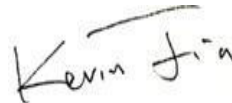
2021/11/11

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		37412
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	138.7
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		269.8
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	1.55%
		20.00%	277V	4.01%
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	4932
		4 step	5029±220	
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		12
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		93
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%		0.15%
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		2.250
(Goniophotometer - Section 4.2)		Non-Worst Case		0.970
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		269.8
(Goniophotometer - Section 4.2)		Non-Worst Case		259.6

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/11/8	ALEDLAT	D1
2	Goniophotometer Test	2021/11/8	ALEDLAT	D1
3	THD and PF Test	2021/11/8	ALEDLAT	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.

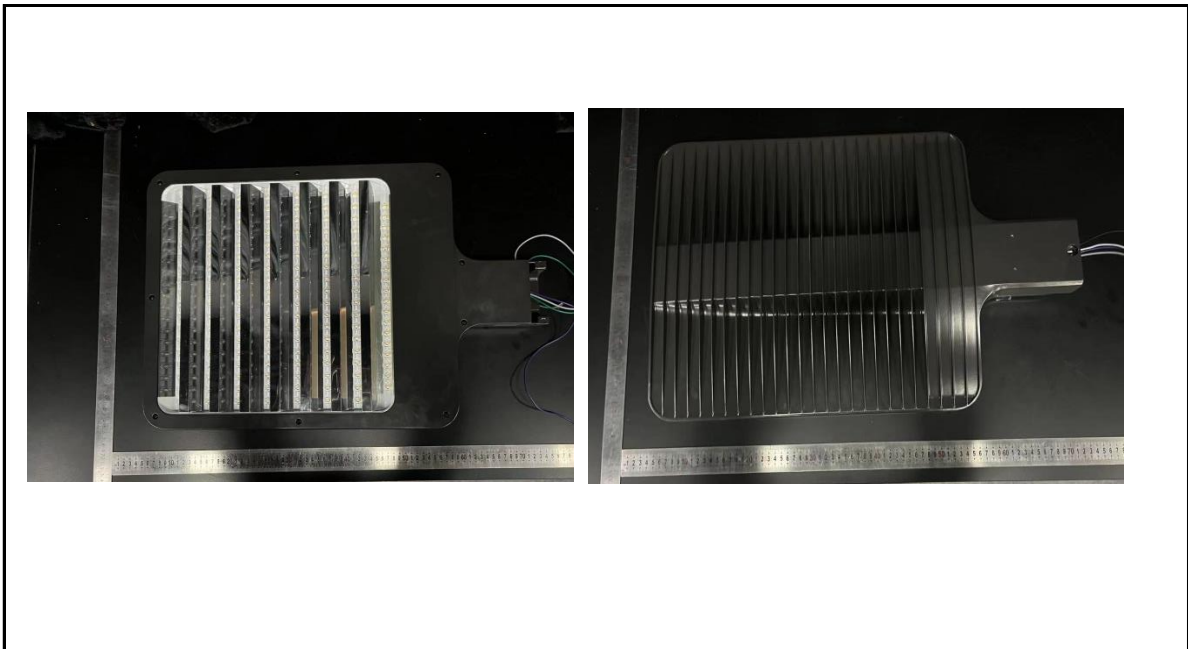
3.0 Production Description

Luminaire Description: ALEDLAT

Description: 260W/36,000 lm @ 5000K

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.	ALEDLAT	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
119.99	60	2.247	269.4	0.999
277.08	60	0.969	259.3	0.965

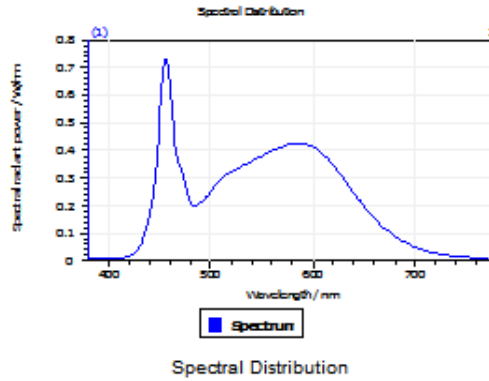
Test Result

CCT (K)	CRI	R9	Duv
4932	84	12	0.0012

Rf	Rg	IES Rcs,h1
83	93	-12%

4.1 Integrating Sphere Test

Results

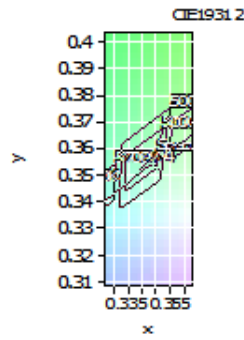


Spectral values

DominantWavelength	572.39 nm
Purity	0.110
PeakWavelength	456.15 nm
Radiant Power	82.64 W
Width50%:	

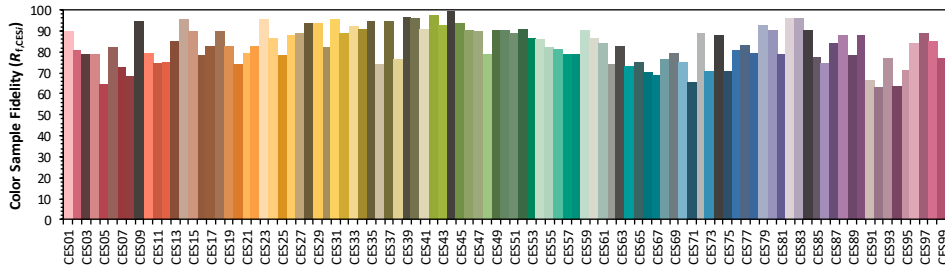
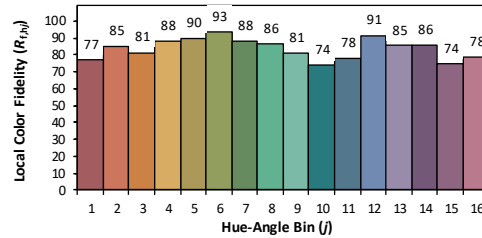
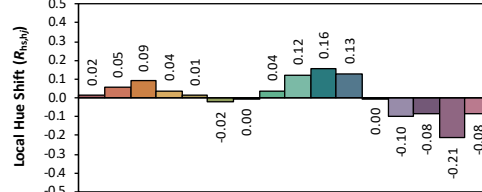
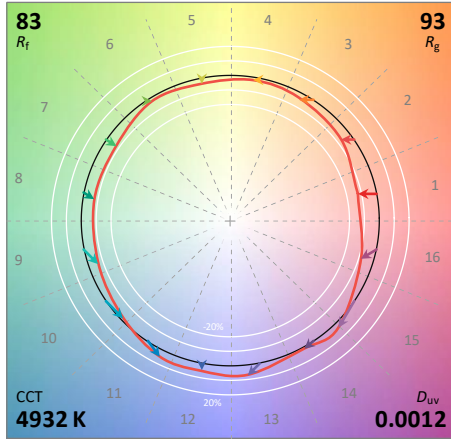
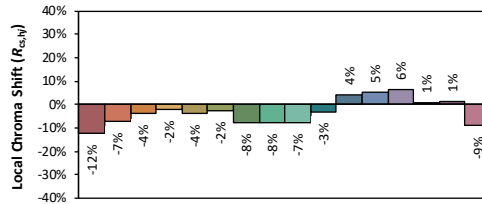
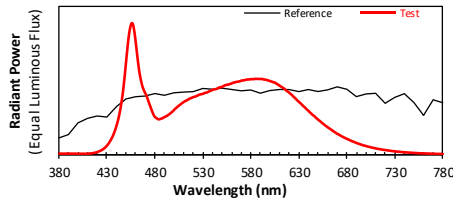
Color Coordinates

Correlated Color Temporal	4932 K		
x:	0.3473	u:	0.2113
		u':	0.2113
y:	0.3559	v:	0.3247
		v':	0.4871
CRI01	82.7	CRI09	12.3
CRI02	92.8	CRI10	81.4
CRI03	94.8	CRI11	77.8
CRI04	78.8	CRI12	56.9
CRI05	81.9	CRI13	86.1
CRI06	87.9	CRI14	97.8
CRI07	84.9	CRI15	77.0
CRI08	66.1	CRI16	71.3
ResultsCRI	83.7		



PlanckDistance 1.2E-003

4.1 Integrating Sphere Test



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

x **0.3473**
 y **0.3559**
 u' **0.2113**
 v' **0.4871**

CIE 13.3-1995 (CRI)	
R_a	84
R_g	13

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.	ALEDLAT	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° C ± 1° 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	120.02	60	2.250	269.8	0.999
NON-WROST CASE	277.04	60	0.970	259.6	0.966

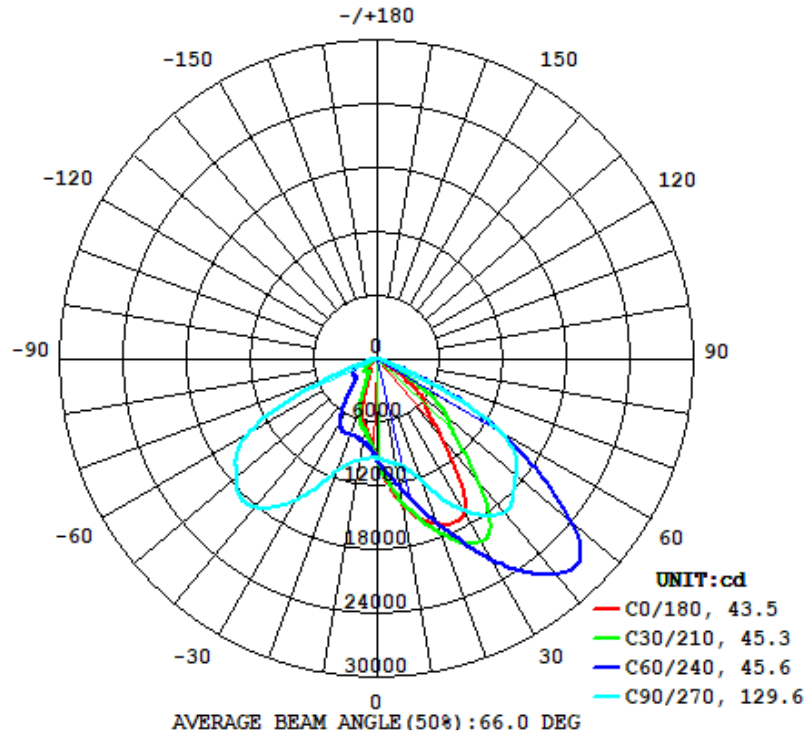
Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
37412	84.4	144.3	43.5	129.6	138.7

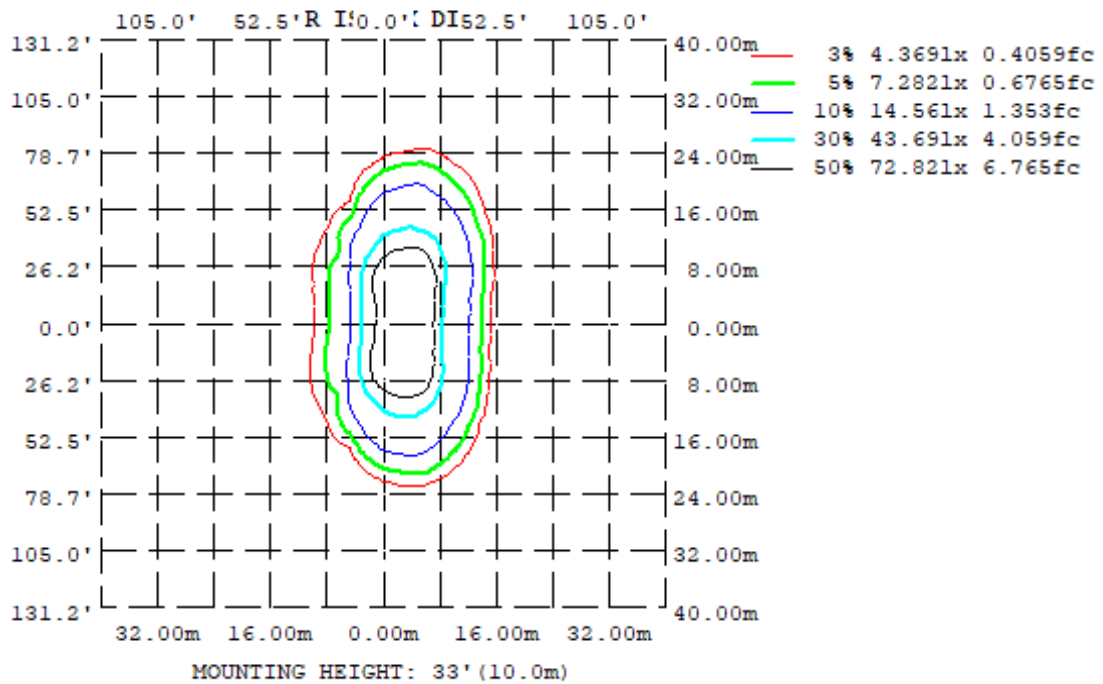
Zonal Lumen Requirement (0°-90°)	Zonal Lumen Requirement (80°-90°)	BUG rating
100.00%	0.15%	B4-U0-G2

4.2 Goniophotometer Test

Light Distribution Curve



Isolux Plot



4.2 Goniophotometer Test

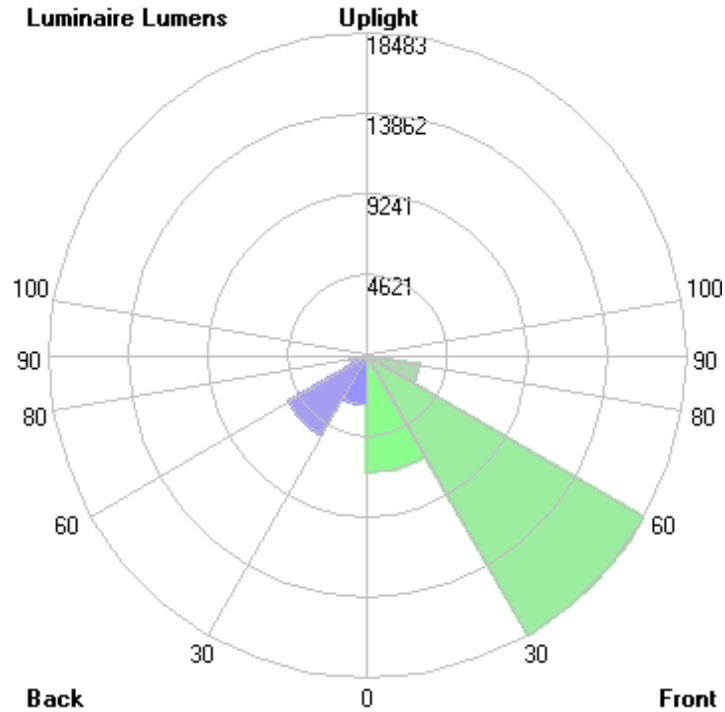
Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	1384	1306	1007	751.9	661.7	734.7	970.2	1265
20	1645	1719	1213	652.4	363.0	627.6	1118	1667
30	1670	2193	1649	376.9	131.7	339.4	1525	2143
40	940.5	2317	1882	214.4	140.1	195.1	1826	2446
50	574.2	1520	1720	245.6	74.91	233.4	1740	1805
60	125.7	766.1	1297	169.0	10.40	161.2	1419	988.6
70	16.76	118.4	222.8	10.39	3.588	10.90	377.7	147.5
80	3.401	7.797	40.98	3.517	1.728	3.803	55.52	11.33
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	932.60	0 - 10	932.60	2.49%
10-20	3051.91	0 - 20	3984.51	10.65%
20-30	5553.84	0 - 30	9538.35	25.50%
30-40	7952.14	0 - 40	17490.49	46.75%
40-50	8575.83	0 - 50	26066.32	69.67%
50-60	7219.37	0 - 60	33285.69	88.97%
60-70	3499.24	0 - 70	36784.93	98.32%
70-80	569.96	0 - 80	37354.89	99.85%
80-90	57.18	0 - 90	37412.07	100.00%
90-100	0.00	0 - 100	37412.07	100.00%
100-110	0.00	0 - 110	37412.07	100.00%
110-120	0.00	0 - 120	37412.07	100.00%
120-130	0.00	0 - 130	37412.07	100.00%
130-140	0.00	0 - 140	37412.07	100.00%
140-150	0.00	0 - 150	37412.07	100.00%
150-160	0.00	0 - 160	37412.07	100.00%
160-170	0.00	0 - 170	37412.07	100.00%
170-180	0.00	0 - 180	37412.07	100.00%

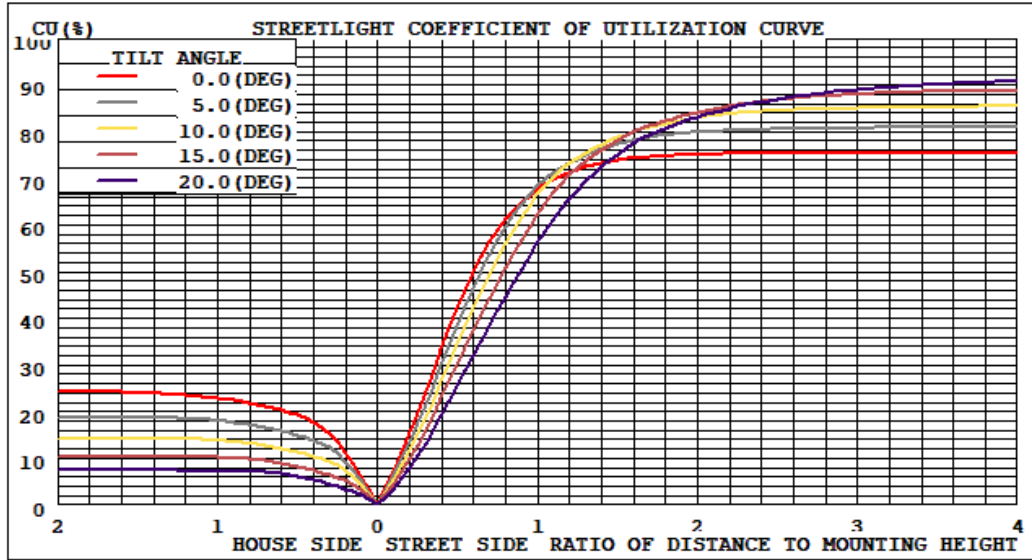
4.2 Goniophotometer Test

LCS/BUG

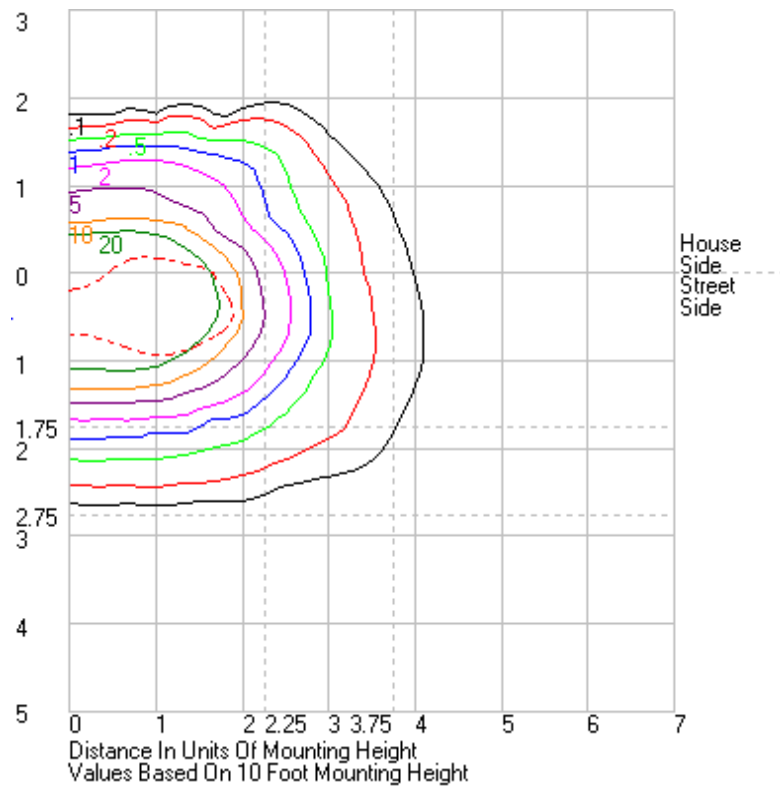


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	6692.5	N.A.	17.9
FM - Front-Medium (30-60)	18482.7	N.A.	49.4
FH - Front-High (60-80)	3081.1	N.A.	8.2
FVH - Front-Very High (80-90)	37.5	N.A.	0.1
BL - Back-Low (0-30)	2845.8	N.A.	7.6
BM - Back-Medium (30-60)	5264.7	N.A.	14.1
BH - Back-High (60-80)	988.1	N.A.	2.6
BVH - Back-Very High (80-90)	19.7	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	37412.1	N.A.	100.0
BUG Rating	B4-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	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08	9476.08
1	9884.66	9878.06	9847.23	9784.94	9711.79	9616.28	9465.16	9349.39	9246.17	9143.11	9062.79	9011.66	9076.88	9079.24	9117.11	9178.08	9257.99	9351.77	9402.87	9504.53	9598	9674.38	9732.91	9771.41	9884.66
2	10314.6	10295.8	10226.5	10108.6	9950.1	9759.59	9503.1	9291.18	9082.98	8891.53	8738.2	8639.34	8675.82	8698.6	8762.47	8883.92	9040.96	9237.29	9398.51	9597.08	9789.99	9954.71	10093.1	10180.9	10314.6
3	10745.1	10731.1	10624.8	10449.4	10205	9915.11	9560.33	9236.94	8918.77	8645.74	8441.33	8305.24	8325.53	8346.67	8437.88	8603.91	8842.2	9132.39	9398.64	9705.44	9997.43	10261.7	10459.6	10591.2	10745.1
4	11179.9	11149.9	11025.2	10796.3	10471.6	10072.8	9611.68	9179.67	8775.24	8434.29	8171	8001.65	8008.65	8028.59	8152.13	8363.43	8657.09	9038.44	9410.4	9823.03	10221.6	10563.1	10829.7	10999.3	11179.9
5	11594.2	11564.4	11412.1	11132.6	10737.4	10242.6	9677.05	9147.04	8647.01	8245.82	7951.03	7762.61	7739.95	7768.42	7905.47	8144.8	8500.42	8956.69	9437.24	9952.41	10450.5	10878.7	11097.8	11408.2	11594.2
6	12038.3	12004.6	11816.4	11483.4	11013.8	10421	9747.97	9102.29	8528.53	8071.88	7746.93	7513.39	7476.6	7515.42	7687.3	7961.47	8362.82	8889.8	9472.86	10093.7	10695.4	11198.4	11564.5	11817.8	12038.3
7	12537.1	12488.8	12253.5	11836.8	11286.8	10603.2	9817.41	9075.13	8434.8	7938.4	7544.89	7262.24	7207.13	7253.4	7467.85	7802.38	8238.85	8833.76	9516.88	10243.3	10950.2	11526.1	11966.9	12292.8	12537.1
8	13033.5	12994.5	12722.3	12211.4	11570.3	10790.8	9899.07	9061.67	8340.42	7800.85	7337.42	7031.21	6970.46	7021.64	7250.52	7654.53	8140.99	8791.68	9570.63	10403.3	11207.6	11861.8	12410.3	12762.1	13033.5
9	13439.7	13421.7	13183.9	12627.4	11861.6	10979.8	9977.01	9035.06	8266.67	7660.79	7147.08	6829.32	6766.53	6817.38	7059.78	7500.87	8064.64	8765.95	9635.34	10575.6	11478.2	12242.6	12870.9	13240.9	13439.7
10	13844.1	13847.4	13621.1	13057.1	12156.6	11178.1	10066	9043.18	8210.69	7519.26	6984.1	6672.63	6617.13	6660.32	6890.34	7346.52	7993.56	8745.43	9702.23	10758.8	11760.1	12649.8	13321.8	13671.5	13844.1
11	14197.2	14222.1	14057.9	13485.6	12485.9	11387.7	10164.9	9039.13	8158.21	7384.8	6841.82	6556.68	6495.09	6544.83	6766.6	7220.8	7924.97	8732.91	9778.32	10939.5	12050.6	13077.9	13754.6	14021.2	14197.2
12	14519.3	14546.7	14418.1	13914.1	12843.6	11599.8	10262.2	9053.93	8113.37	7277.93	6742.95	6441.13	6345.18	6416.49	6672.24	7107.16	7850.41	8726.65	9856.32	11134.2	12365.3	13510.5	14123.2	14337.7	14519.3
13	14870.2	14879.6	14751.8	14326.6	13227.7	11851.5	10393.5	9099.24	8071.61	7182.25	6619.5	6296.37	6155.83	6249.89	6573.22	7010.83	7776.33	8733.46	9946.52	11340.5	12711.5	13926.2	14447.5	14659.8	14870.2
14	15267.9	15293.7	15090.6	14697	13634.5	12124.4	10537	9139.35	8030.99	7107.33	6507.34	6084.07	5904.07	6038.74	6442.69	6946.57	7717.52	8754.41	10047.5	11563.6	13076.7	14321	14774.7	15047.5	15267.9
15	15586.3	15661.6	15502.5	15021.5	14042.2	12425.1	10707.4	9227.72	8009.81	7055.98	6396.25	5820	5599.48	5767.55	6279.25	6888.14	7673.23	8742.04	10164.1	11804.3	13478.1	14673.3	15122.6	15424	15586.3
16	15855.7	15982.3	15941.2	15390.3	14487.3	12788.3	10924.7	9316.59	8009.68	6989.7	6186.66	5504.63	5265.07	5462.39	6067.31	6811.4	7642.75	8849.27	10305.3	12083.4	13892.1	15011.7	15552.2	15739.5	15855.7
17	16057.4	16259.8	16328.4	15770.6	14920.3	13163.9	11139.7	9431.45	8025.31	6914.61	5943.71	5160.33	4892.15	5123.63	5819.96	6716.31	7618.63	8921.55	10470.8	12387.1	14320.2	15370.5	15940.7	15994	16057.4
18	16222.8	16506.2	16706.5	16238.6	15369.6	13613.5	11439	9591.76	8052.04	6817.08	5665.33	4795.38	4491.24	4751.75	5540.94	6597.68	7621.35	9015.76	10670.6	12732.2	14770.1	15750.7	16289.3	16213.1	16222.8
19	16320	16706.1	17057.5	16718	15806.1	14063.9	11766.8	9739.83	8096.07	6686.87	5352.33	4396.01	4066.15	4357.1	5228.75	6449.47	7638.58	9118.57	10905.1	13114.4	15214.1	16202.8	16622.4	16397.1	16320
20	16450.9	16895.5	17420.2	17191	16244.4	14523.8	12131.3	9957.76	8150.84	6523.92	5021.02	3971.07	3629.73	3931.51	4899.14	6276.04	7660.06	9242.63	11177.6	13549.5	15663.1	16669.9	16944.8	16548	16450.9
21	16657.1	17133.6	17750.3	17656.4	16726.5	15090	12598.1	10184.9	8202.13	6360.33	4656.59	3559.09	3215.87	3524.99	4531.88	6081.45	7686.56	9386.96	11497.3	14025	16122.9	17128.9	17259.1	16747.3	16657.1
22	16881.2	17400.1	18071.3	18123	17196.7	15602.8	13007.6	10407.5	8247.28	6172.59	4277.41	3162.08	2832.75	3125.69	4156.85	5865.89	7704.4	9551.65	11849.9	14510.6	16577.9	17566.2	17553.8	17010.6	16881.2
23	17032.1	17633.3	18437.7	18615.8	17757.5	16191.3	13531.6	10708.8	8287.29	5937.62	3893.95	2796.5	2483.38	2766.33	3770.23	5618.15	7705.2	9741.27	12241.6	15051.8	17077.8	18030	17863.1	17281.5	17032.1
24	17073.3	17784.7	18791.3	19104.6	18322.8	16762.7	14008.4	10949.1	8306.25	5669.56	3525.24	2463.98	2184.33	2435.16	3402.57	5344.03	7691.07	9941.58	12647.9	15608.9	17592	18486.2	18220.3	17483.4	17073.3
25	17073.4	17850.2	18911.7	19578.4	18907.4	17295.5	14436.4	11261.1	8310.82	5383.11	3169.56	2184.54	1932.21	2155.4	3056.41	5032.5	7649.25	10157.9	13099.5	16179.2	18143.6	18969.7	18581.2	17584.8	17073.4
26	17073.4	17890.9	19350.2	20062.3	19501.6	17905.4	14937.8	11555.7	8299.85	5065.48	2850.42	1948.86	1725.92	1915.32	2735.78	4706.58	7585.99	10385.7	13574.4	16766.8	18746	19455.6	18893.4	17630.2	17073.4
27	17064.9	17898.3	19514.4	20533.7	20055.7	18421.5	15327.9	11825.3	8260.06	4740.79	2554.31	1753.04	1560.9	1721.01	2445.47	4367.6	7496.34	10615.8	14023	17338.5	19357.6	19932.1	19144.6	17688.4	17064.9
28	17004.6	17852.1	19659.6	21038.2	20656.8	19003.2	15753	12164.5	8203.46	4408.93	2306.97	1598.24	1440.72	1565.58	2199.75	4033.29	7379.4	10849.8	14467.1	17912.3	19964.5	20412.9	19330.1	17729.7	17004.6
29	16908.8	17771.7	19761.5	21493.6	21232.8	19535.5	16152.5	12406.5	8111.56	4087.31	2097.48	1485.4	1361.25	1450.62	1986.45	3704.68	7238.19	11066.4	14867.2	18465.8	20561.1	20928.3	19485.2	17722.3	16908.8
30	16702.9	17612.8	19838.4	21931.9	21808.3	20015.9	16493.3	12655	7984.18	3768.82	1913.36	1411.65	1317.38	1381.04	1810.79	3393.9	7071.27	11275.3	15254.7	19008.2	21152.9	21431.2	19638.4	17678.8	16702.9
31	16431.2	17364.3	19846.8	22330.1	22419.1	20544.9	16887	12895.7	7834.56	3481.3	1773.15	1370.12	1297.03	1343.03	1674.01	3105.71	6884.36	11461.8	15643	19548.6	21743	21910.9	19782.3	17517.4	16431.2
32	15984.5	17000.7	19757.5	22658	22964.5	20974.9	17186.6	13047.8	7625.1	3209.22	1668.13	1351.9	1307.68	1330.5	1573.18	2844.57	6650.96	11623.3	16010.1	20063.6	22313.6	22345.8	19867.5	17262.8	15984.5
33	15375.6	16458.6	19576.2	22964	23528.3	21430.9	17505.2	13216.9	7398.75	2974.52	1609.44	1364.24	1331.42	1345.77	1517.37	2610.01	6401.88	11767.9	16385.2	20580.9	22912.2	22758.2	19859.5	16886.6	15375.6
34	14579	15740.4	19281.9	23214.7	24026.2	21839.6	17808.4	13311.6	7140.69	2766.71	1577.66	1395.02	1357.3	1375.68	1490.96	2417.97	6125.79	11880.2	16732.3	21053.3	23479.8	23151.9	19742.9	16347.9	14579
35	13690.1	14902.5	18819.3	23457.3	24499.3	22201.2	18048.4	13372	6837	2579.98	1571.81	1431.4	1379.18	1405.54	1490.48	2249.5	5826.31	11977	17052	21521.3	24046.1	23509.5	19539.6	15597.7	13690.1
36	12781.1	13966.2	18185.5	23638.7	24985.6	22588.3	18311.6	13431.9	6528.69	2422.34	1593.41	1463.29	1398.84	1430.51	1516.5	2116.84	5520.61	12041	17359.1	21966.4	24588.3	23865.5	19235.1	14732.5	12781.1
37	11908.6	13041.7	17387.9	23698.5	25408.5	22910	18491.9	13417.7	6204.46	2299.81	1640.13	1494.68	1420.28	1455.94	1559.29	2017.29	5205.9	12063.7	17628.8	22386.6	25075.1	24165.1	18744.1	13869.8	11908.6
38	11083.4	12180.4	16520.4	23682.1	25818.5	23217.5	18647.4	13386.5	5880.23	2211.16	1695.12	1524.36	1427.08	1479.85	1600.9	1962.72	4887.45	12047.1	17870.9	22768.8	25				



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.	ALEDLAT	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° C ± 1° 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
119.99	60	2.247	269.4	0.999	1.55%
277.08	60	0.969	259.3	0.965	4.01%

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*****