

# Photometric Test Report

## Relevant Standards

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

## Prepared For RAB Lighting Inc.

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## Project Number

**DLF2111105**

## Report Number

**DLF2111105-8a**

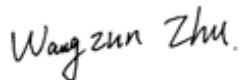
## Test Date

**2021/11/8**

## Issue Date

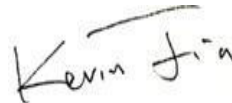
**2021/11/11**

### 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		49583
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	133.7
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		371.0
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	3.22%
		20.00%	277V	10.05%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.999
		0.9	277V	0.962
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	5029±355	4933
		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		14
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		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%		0.24%
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		3.091
(Goniophotometer - Section 4.2)		Non-Worst Case		1.373
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		371.0
(Goniophotometer - Section 4.2)		Non-Worst Case		366.7

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/11/8	ALEDXL2T	H1
2	Goniophotometer Test	2021/11/8	ALEDXL2T	H1
3	THD and PF Test	2021/11/8	ALEDXL2T	H1

### 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:** ALEDXL2T

**Description:** 385W/50,000 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.	ALEDXL2T	Sample ID.	H1
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  $\pm 0.2$  percent under load.

The sample was measured using  $4\pi$  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
120.04	60	3.074	368.8	0.999
277.03	60	1.363	363.4	0.962

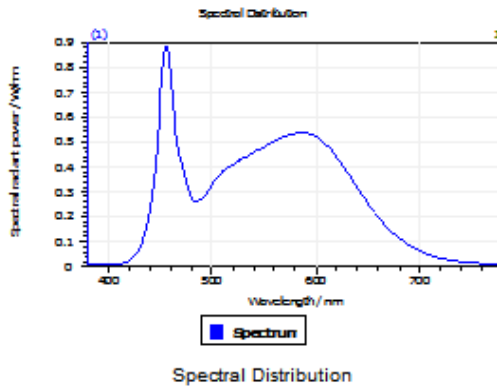
#### Test Result

CCT (K)	CRI	R9	Duv
4933	84	14	0.0014

Rf	Rg	IES Rcs,h1
84	93	-12%

## 4.1 Integrating Sphere Test

### Results

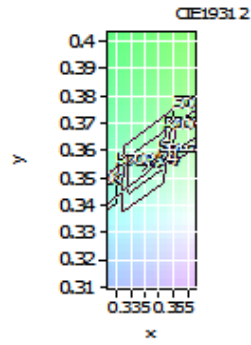


#### Spectral values

DominantWavelength	572.21 nm
Purity	0.111
PeakWavelength	455.93 nm
Radiant Power	105.1 W
Width50%:	

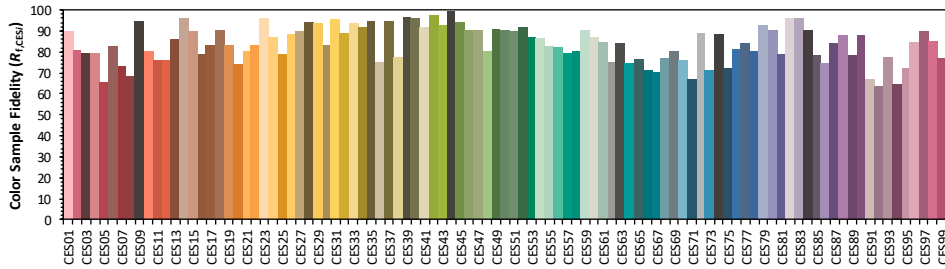
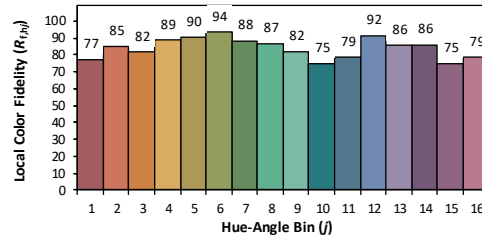
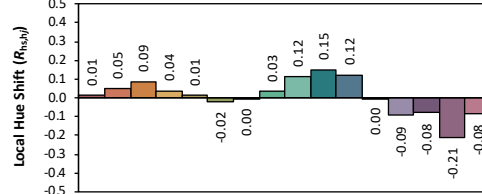
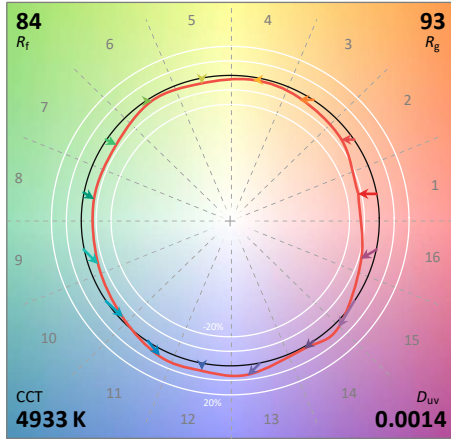
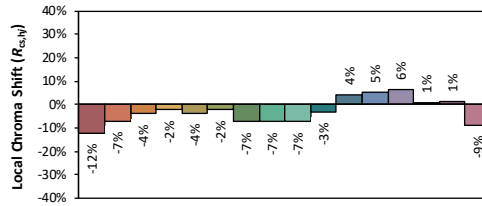
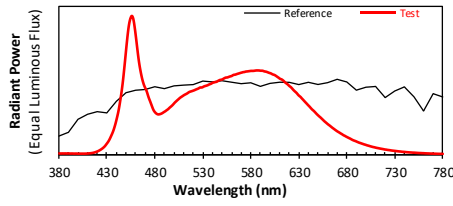
#### Color Coordinates

Correlated Color Temperal	4933 K		
x:	0.3473	u:	0.2111
y:	0.3562	v:	0.3248
	u':	0.2111	
	v':	0.4872	
CRI01	82.9	CRI09	13.6
CRI02	92.9	CRI10	81.9
CRI03	94.9	CRI11	78.6
CRI04	79.5	CRI12	58.2
CRI05	82.4	CRI13	86.3
CRI06	88.2	CRI14	97.9
CRI07	85.3	CRI15	77.2
CRI08	66.6	CRI16	71.7
ResultsCRI	84.1		



PlankDistance 1.4E-003

### 4.1 Integrating Sphere Test



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

$x$     **0.3473**  
 $y$     **0.3562**  
 $u'$    **0.2111**  
 $v'$    **0.4872**

CIE 13.3-1995 (CRI)	
$R_a$	84
$R_g$	15

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.	ALEDXL2T	Sample ID.	H1
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	120.10	60	3.091	371.0	0.999
NON-WROST CASE	277.04	60	1.373	366.7	0.964

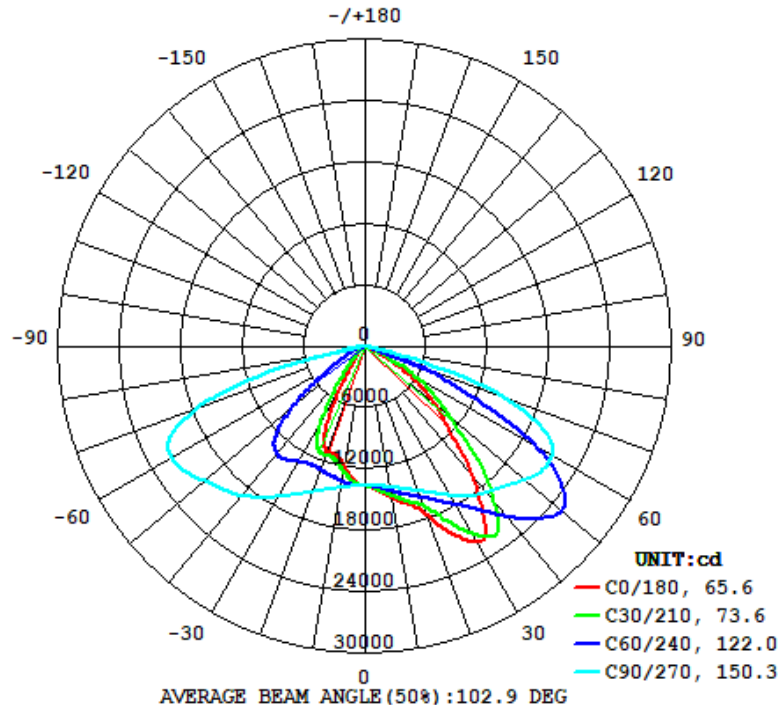
#### Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
49583	97.6	159.2	65.6	150.3	133.7

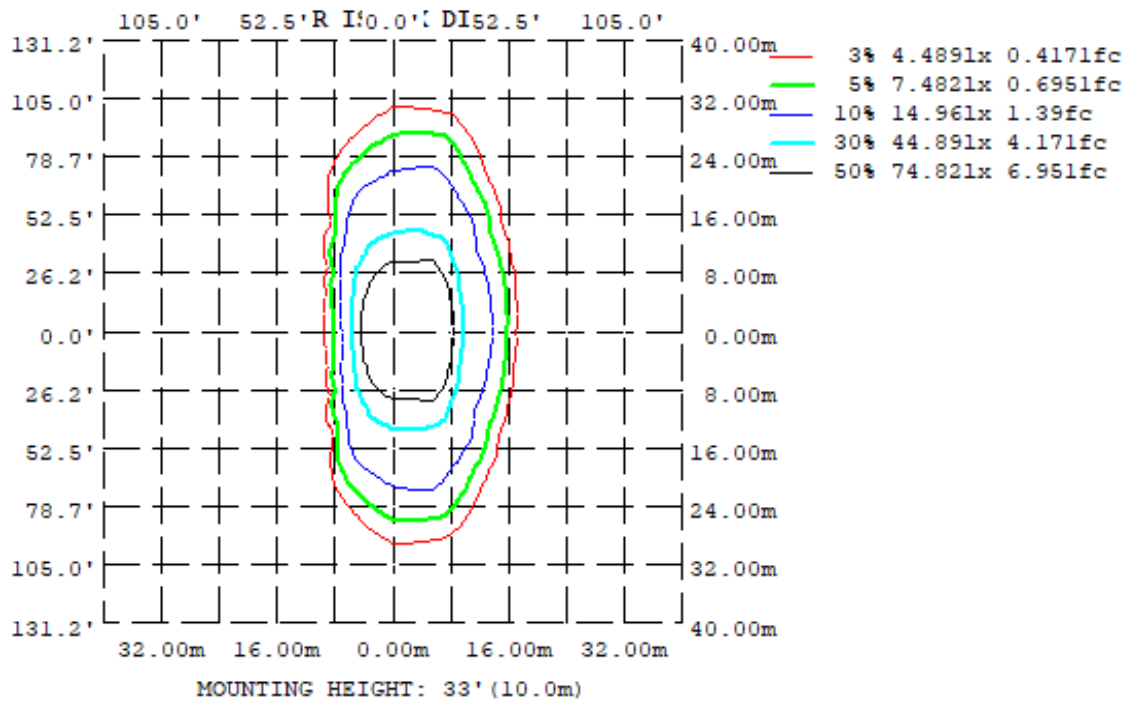
Zonal Lumen Requirement (0°-90°)	Zonal Lumen Requirement (80°-90°)	BUG rating
100.00%	0.24%	B5-U0-G4

## 4.2 Goniophotometer Test

### Light Distribution Curve



### Isolux Plot



## 4.2 Goniophotometer Test

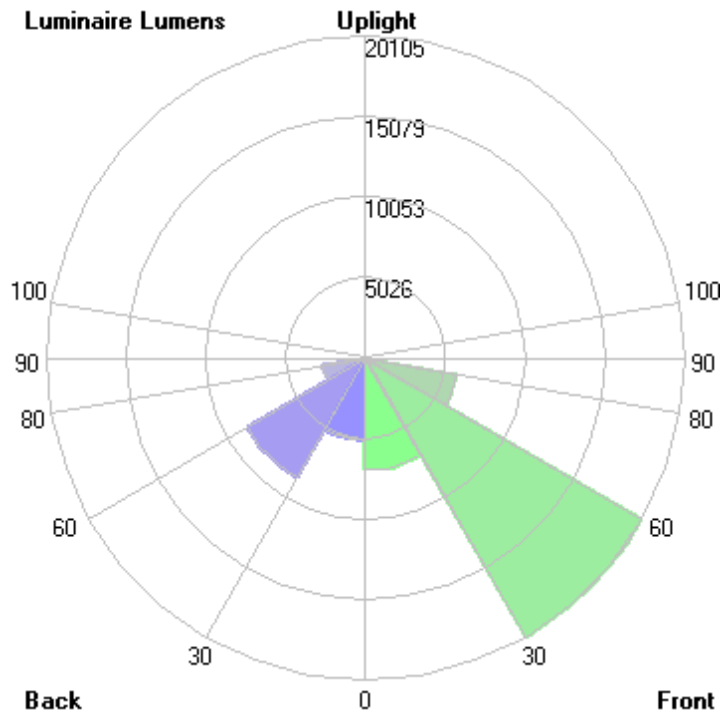
### Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	1500	1459	1398	1267	1195	1290	1400	1459
20	1737	1622	1503	1148	1103	1176	1513	1633
30	2210	1960	1686	1128	578.9	1168	1696	1972
40	1651	2358	1863	650.3	145.6	730.4	1908	2385
50	924.8	1788	2032	185.8	63.42	219.8	2053	1853
60	306.8	825.6	2119	65.18	14.73	85.57	2185	896.5
70	24.20	102.1	1438	19.45	12.51	19.92	1736	182.7
80	7.370	15.58	84.57	5.473	2.197	8.664	179.1	20.67
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	1305.95	0 - 10	1305.95	2.63%
10-20	3947.49	0 - 20	5253.44	10.60%
20-30	6900.67	0 - 30	12154.11	24.51%
30-40	9371.91	0 - 40	21526.02	43.41%
40-50	10062.38	0 - 50	31588.40	63.71%
50-60	9316.33	0 - 60	40904.73	82.50%
60-70	6552.03	0 - 70	47456.76	95.71%
70-80	2009.02	0 - 80	49465.78	99.76%
80-90	117.09	0 - 90	49582.87	100.00%
90-100	0.00	0 - 100	49582.87	100.00%
100-110	0.00	0 - 110	49582.87	100.00%
110-120	0.00	0 - 120	49582.87	100.00%
120-130	0.00	0 - 130	49582.87	100.00%
130-140	0.00	0 - 140	49582.87	100.00%
140-150	0.00	0 - 150	49582.87	100.00%
150-160	0.00	0 - 160	49582.87	100.00%
160-170	0.00	0 - 170	49582.87	100.00%
170-180	0.00	0 - 180	49582.87	100.00%

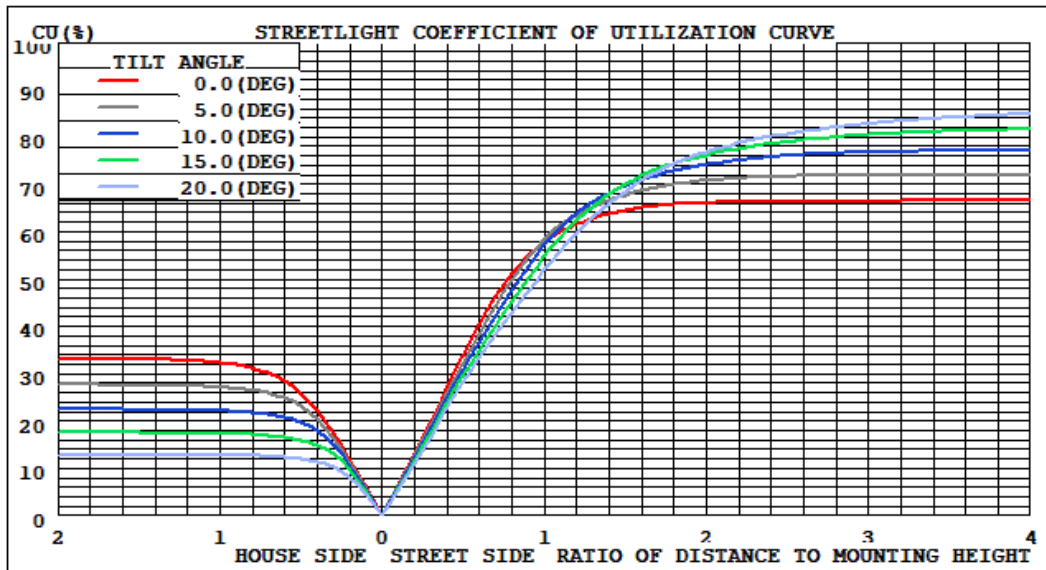
## 4.2 Goniophotometer Test

LCS/BUG

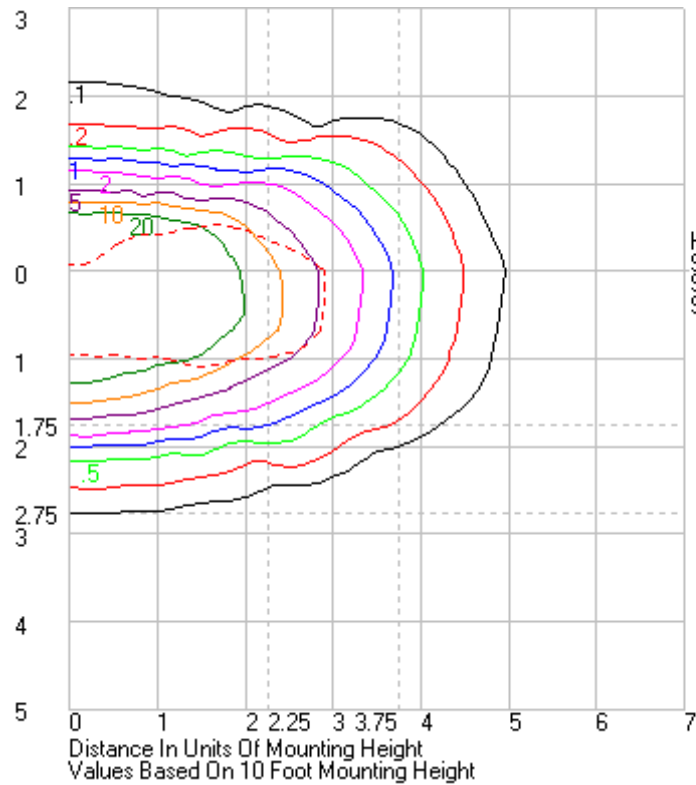


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	7007.2	N.A.	14.1
FM - Front-Medium (30-60)	20105.3	N.A.	40.5
FH - Front-High (60-80)	5840.2	N.A.	11.8
FVH - Front-Very High (80-90)	72.6	N.A.	0.1
BL - Back-Low (0-30)	5146.9	N.A.	10.4
BM - Back-Medium (30-60)	8645.3	N.A.	17.4
BH - Back-High (60-80)	2720.9	N.A.	5.5
BVH - Back-Very High (80-90)	44.5	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
<b>Total</b>	<b>49582.9</b>	<b>N.A.</b>	<b>100.0</b>
<b>BUG Rating</b>	<b>B5-U0-G4</b>		

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	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9	13679.9
1	13704.4	13692.8	13682	13668.5	13652.6	13641.7	13632.7	13623.8	13619.2	13610.3	13599.1	13590.6	13677.2	13670.4	13661.9	13657.4	13648.5	13644.2	13637.3	13630.5	13630.9	13630.7	13624.3	13620.1	13704.4	13704.4
2	13753.7	13744	13726.1	13703.8	13675.3	13654.7	13641.6	13630.4	13617	13588.3	13557.2	13534.2	13626.6	13626.8	13634.8	13650.5	13667.5	13657.7	13650.7	13649.2	13655.8	13663.3	13668.2	13669.1	13753.7	13753.7
3	13834.6	13819	13788.5	13750.9	13710.9	13679.4	13657.2	13641.4	13603.8	13541.3	13478.6	13433.9	13509.8	13525.3	13566	13614.5	13652.9	13673.7	13671.3	13675.7	13694	13713	13733.6	13745.5	13834.6	13834.6
4	13955	13926.9	13912.2	13819.9	13755.9	13708.8	13681.3	13659.2	13581.9	13473.2	13368.5	13291.4	13392.8	13423.8	13480.4	13567.5	13639	13693.8	13694.3	13707.6	13739.8	13780.3	13823.3	13856.8	13955	13955
5	14117.5	14084.1	14009.7	13906.8	13813.5	13747.3	13711	13675.2	13552.4	13387.9	13222.1	13104.3	13223.5	13272.3	13393.6	13511.4	13621	13716.2	13725.8	13749.8	13797.3	13869.7	13954.8	14015.8	14117.5	14117.5
6	14299	14260.2	14157.3	14020.7	13884.2	13795.3	13747.3	13695.2	13518.7	13278.8	13034.1	12859.4	12977	13044.1	13225	13455.1	13600.7	13740.8	13763.3	13794.8	13867.1	13990	14118.6	14193.1	14299	14299
7	14472.2	14430.3	14321.2	14155.9	13972.7	13853.9	13795.7	13717.4	13476.7	13146.5	12817.6	12616.3	12725.6	12811	13019.5	13332.9	13569.3	13768.3	13810.4	13853.5	13958.7	14132.7	14288.5	14375.6	14472.2	14472.2
8	14639.3	14588.6	14479.5	14305	14076.2	13922	13848.2	13740.2	13428.8	12984.3	12602.3	12380.4	12476.8	12578.2	12822.4	13196.2	13539.8	13801.9	13865.5	13917.3	14062.9	14284.8	14453.6	14543.5	14639.3	14639.3
9	14795.7	14750.8	14631.1	14453.6	14190.8	13996.9	13910.7	13766.8	13368.8	12825.8	12397.5	12137.2	12218.6	12338.5	12625.9	13048.7	13494.7	13838.2	13931.8	13995.7	14186.6	14438.5	14613.9	14710.9	14795.7	14795.7
10	14997.7	14931.2	14781.1	14586.8	14316.8	14077.5	13975.3	13796.5	13295.8	12668.2	12185.8	11875.4	11951.4	12085.1	12423.3	12900.5	13439	13879.1	14001.7	14080.2	14320.8	14587.8	14769.6	14886.4	14997.7	14997.7
11	15180.2	15113.3	14941.9	14728.9	14451.9	14165.1	14051	13830.2	13212.7	12516.6	11954.2	11630.7	11706.7	11844.1	12206.5	12763.2	13377.5	13928.1	14085	14177.2	14461	14738.3	14934	15078.4	15180.2	15180.2
12	15384.3	15295.4	15121.9	14860.8	14582.3	14264	14132.3	13865.3	13131.1	12363.6	11744.4	11432.3	11501.3	11641.3	12005.4	12626.6	13310.6	13977.8	14172.1	14281	14607.5	14879.9	15121.5	15259.9	15384.3	15384.3
13	15605.6	15491.1	15278.5	15000.1	14718.1	14364.8	14217.1	13904.1	13053	12196.6	11568.7	11267.3	11340.2	11473.2	11824.8	12473.2	13244.8	14031.2	14269.1	14400.2	14761.1	15024	15285.2	15459	15605.6	15605.6
14	15806.5	15712.3	15467.8	15171.2	14846.2	14471.2	14314.7	13942.3	12982.9	12036	11417	11116.1	11189.3	11323.6	11665.2	12324.8	13187	14088.1	14372.8	14522	14894.8	15211.5	15476.3	15683.5	15806.5	15806.5
15	15966.3	15884.8	15668.5	15321.9	14966.5	14587.4	14411.3	13978.8	12915.5	11898.2	11287.1	11006.9	11098.2	11205.4	11545.1	12183.9	13141.2	14147.5	14478.8	14656.7	15041.4	15372.1	15683.8	15867.3	15966.3	15966.3
16	16122.6	16041.7	15860.8	15473.1	15101.6	14715.8	14522.5	14025.7	12849.2	11781.7	11169.7	10967.4	11084.8	11154.4	11426.4	12071	13083.6	14203.8	14598	14797.1	15197	15537.5	15885.7	16028.6	16122.6	16122.6
17	16307.3	16202.5	16016.3	15649.6	15221.2	14852.5	14635.9	14067.8	12786.6	11682.2	11099	10978.3	11100.4	11158.8	11346.9	11964.5	13034.1	14263.7	14721.4	14943.6	15328.6	15723.4	16045.1	16193.6	16307.3	16307.3
18	16601.2	16423.7	16176	15849.5	15376.9	14987.6	14761.4	14114.5	12715.3	11604.1	11092.8	11002.8	11121	11188.8	11325.8	11890.7	12978.8	14325.9	14854.2	15102.8	15493.7	15931.9	16214.9	16413.5	16601.2	16601.2
19	16941.9	16740.2	16347.7	16046.6	15538.6	15138.4	14895.7	14166.9	12660.2	11528	11119.5	11007.8	11107.7	11198.2	11341.2	11818.8	12917.8	14383.7	14983.6	15263.3	15679.4	16137.6	16399	16718.7	16941.9	16941.9
20	17368.7	17106.1	16586.8	16223.9	15701.1	15295.7	15027.9	14213.4	12605.7	11484.6	11142.5	10965.3	11035	11169.7	11377	11759.8	12866.3	14445.2	15128.4	15424.3	15850	16327.7	16626.9	17074.4	17368.7	17368.7
21	17907.4	17553.3	16905.8	16402.9	15865.7	15453.6	15179.5	14271.5	12578.9	11484.2	11156.1	10844.2	10871	11073.6	11396.6	11738.6	12827.4	14503.1	15279.3	15594.2	16017.7	16507.9	16935	17502.6	17907.4	17907.4
22	18493.6	18108.7	17246.4	16584.8	16041.7	15606	15335.4	14330.9	12561.2	11526.7	11127.7	10651.2	10620.6	10901.9	11386.2	11762.4	12801.1	14563.2	15435.6	15771.4	16203.8	16698.1	17278.9	18047.7	18493.6	18493.6
23	19045.9	18685.7	17666.4	16797	16242.2	15769.1	15495	14396.9	12554	11582.6	11030.8	10361.3	10288.4	10634.6	11318.2	11814	12783.1	14632.8	15603.9	15949.2	16406.6	16916.5	17686.5	18620.2	19045.9	19045.9
24	19570.6	19202.2	18195	17055	16454.7	15930.1	15676.6	14468	12562.8	11634.4	10874.8	9986	9854.89	10292.9	11185.3	11873.8	12785.6	14706.2	15774.7	16121	16619	17168	18185.9	19147.3	19570.6	19570.6
25	20092.6	19722.1	18738.2	17370.1	16686	16094.7	15606	14549.7	12576.4	11676.8	10635.8	9532.5	9346.7	9845.51	10984.5	11926.4	12803.5	14786	15958.7	16297	16865.5	17490.3	18375.8	19666.5	20092.6	20092.6
26	20614.5	20246.3	19246.1	17724.4	16917	16272.2	16046.8	14636.9	12596.2	11695	10328.9	9006.37	8767.58	9343.26	10707	11962.9	12817.3	14877.4	16148.8	16480.9	17093.9	17840.2	19265.1	20182.2	20614.5	20614.5
27	21102.1	20726.4	19742.8	18115.9	17147.9	16456.4	16241.6	14728.3	12631.6	11666.8	9955.3	8421.31	8130.39	8776.2	10348.9	11964.3	12848.8	14965.8	16335	16667.2	17325.8	18224.6	19758.9	20679.2	21102.1	21102.1
28	21530	21181.1	20227.4	18564.2	17369.8	16636.3	16445.1	14826	12688.1	11587.8	9512.93	7782.37	7380.99	8138.98	9939.97	11919.9	12895	15066.4	16541.1	16854.5	17565.1	18662.3	20258.7	21139.2	21530	21530
29	21890.8	21605	20703	19083.9	17619.3	16809.5	16646.8	14922.7	12770	11461.6	9021.65	7052.08	6589.85	7413.66	9462.81	11831.7	12958.9	15167	16747.5	17035.6	17807.2	19184	20752.2	21562.9	21890.8	21890.8
30	22102.1	21928.4	21157.5	19599.1	17870.5	16992.4	16857.7	15023.3	12877.2	11282.1	8468.95	6296.84	5788.99	6642.33	8934.31	11681.1	13050.5	15269.4	16957.7	17223.3	18074.9	19717.6	21218.9	21896.3	22102.1	22102.1
31	22188.2	22111.7	21580.2	20096	18143.1	17183.5	17064.4	15122.4	12981.5	11039.4	7848.36	5577.45	5042.7	5867.8	8350.67	11484.4	13162.8	15375.8	17171.8	17433.1	18352.9	20227.7	21638.8	22085.4	22188.2	22188.2
32	22082.2	22166	21945.7	20574.5	18427.8	17377.1	17261.8	15223.6	13088.8	10759.2	7158.28	4858.06	4363.31	5130.74	7690.98	11227.2	13271.5	15478.1	17386.4	17646.5	18654.1	20719.6	22024.5	22144.4	22082.2	22082.2
33	21744.8	22018.4	22217	21058.5	18779.5	17571.1	17472.5	15334.8	13191.7	10428	6486.12	4212.3	3749.42	4466.85	6971.91	10925.1	13378.8	15584.5	17606.3	17859.5	19014.6	21220.4	22315	22013.7	21744.8	21744.8
34	21172.2	21655.4	22374.3	21527.2	19147.1	17766.7	17663.5	15441.6	13280.4	10030.1	5808.92	3622.15	3192.04	3861.54	6265.97	10574.8	13483.6	15697.2	17823	18063.5	19381	21721.7	22481	21670	21172.2	21172.2
35	20436.8	21057	22395.5	21978.8	19522.5	17957.8	17853.2	15559.1	13341.3	9582.37	5131.71	3104.66	2724.65	3304.56	5598.05	10179.8	13584	15811.1	18046	18270.8	19772.6	22185.7	22532	21109.5	20436.8	20436.8
36	19581.4	20282.1	22229.1	22414.6	19933	18144.6	18034.5	15672.7	13365.1	9067.71	4518.8	2659.66	2346.19	2837.56	4961.81	9728.29	13656.8	15925.8	18268.2	18481.8	20186	22633.8	22398.2	20393.2	19581.4	19581.4
37	18771.8	19444.1	21838.9	22833	20372	18335.3	18216.9	15800.8	13345.8	8475.64	3947.26	2294.03	2035.29	2448.07	4338.27	9195.18</										







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.	ALEDXL2T	Sample ID.	H1
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
120.04	60	3.074	368.8	0.999	3.22%
277.03	60	1.363	363.4	0.962	10.05%

## 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\*\*\*\*\*