



# Photometric Test Report

## Relevant Standards

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

## Prepared For RAB Lighting Inc.

Room 6A33, No.1388, Wuzhong road, Shanghai, China

Xiao Xiang, 15921313292, Gary.Xiao@rabweb.com

## Prepared By

Deliver Co., Ltd.

Block 11, 78 Keling Road, SSTP, Suzhou, China

0512-66801950, kevin.jia@szdeliver.com

## Project Number

DLF2111113

## Report Number

DLF2111113-15a

## Test Date

2021/11/26

## Issue Date

2021/12/2

### 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	37425	
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	141.9
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case	263.7	
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	4.86%	
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	0.963	
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3985±275	3925
		4 step	3985±154	
Minimum CRI (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥70	83	
Minimum R9 (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥-40	5	
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	
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%	0.21%	
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	0.571	

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/11/26	ALEDL2TN480	O1
2	Goniophotometer Test	2021/11/26	ALEDL2TN480	O1
3	THD and PF Test	2021/11/26	ALEDL2TN480	O1

### 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.

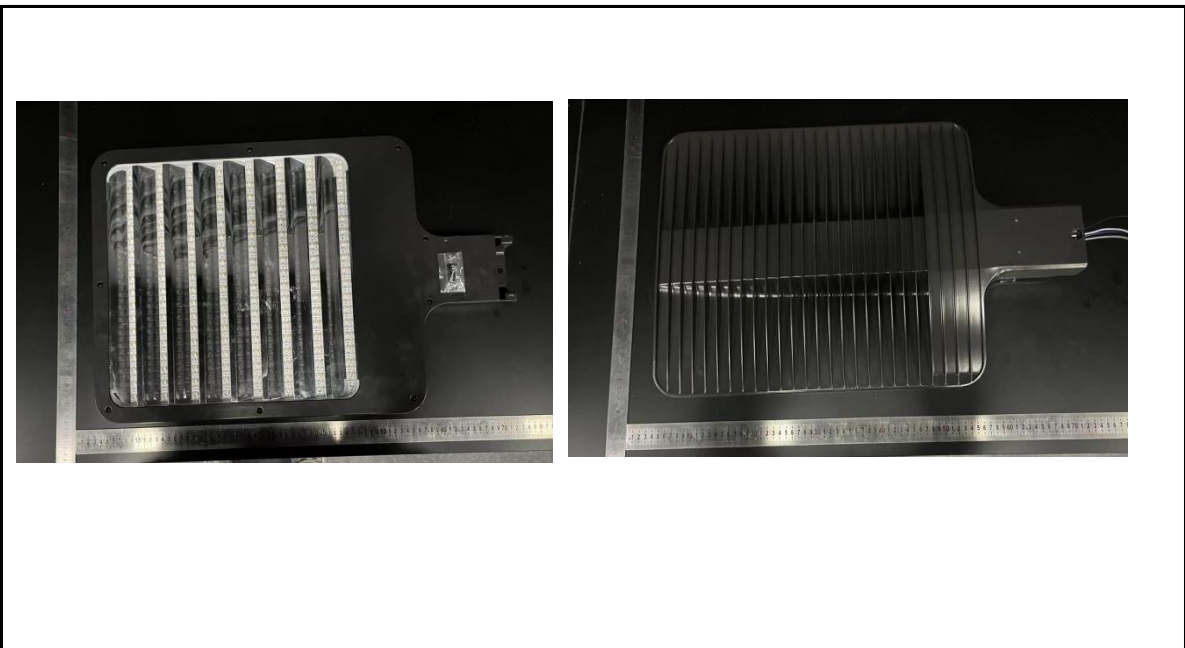
## 3.0 Production Description

**Luminaire Description:** ALEDL2TN480

**Description:** 260W/36,000 lm @ 4000K

**Electrical Specification:** 480V,50/60HZ

### Photos of Luminaire Characteristics



## 4.0 LM-79 Measurement and Test Results

### 4.1 Integrating Sphere Test

Model No.	ALEDL2TN480	Sample ID.	O1
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
480.06	60	0.570	263.5	0.963

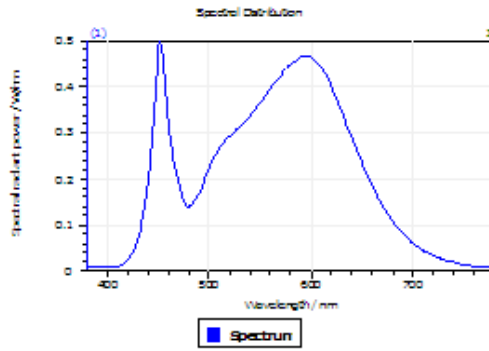
#### Test Result

CCT (K)	CRI	R9	Duv
3925	83	5	0.0002

Rf	Rg	IES Rcs,h1
84	95	-12%

### 4.1 Integrating Sphere Test

**Results**



**Spectral values**

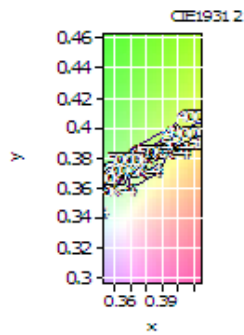
DominantWavelength	579.25 nm
Purity	0.291
PeakWavelength	452.04 nm
Radiant Power	80.45 W
Width50%	22.00 nm

**Color Coordinates**

Correlated Color Temperat 3925 K

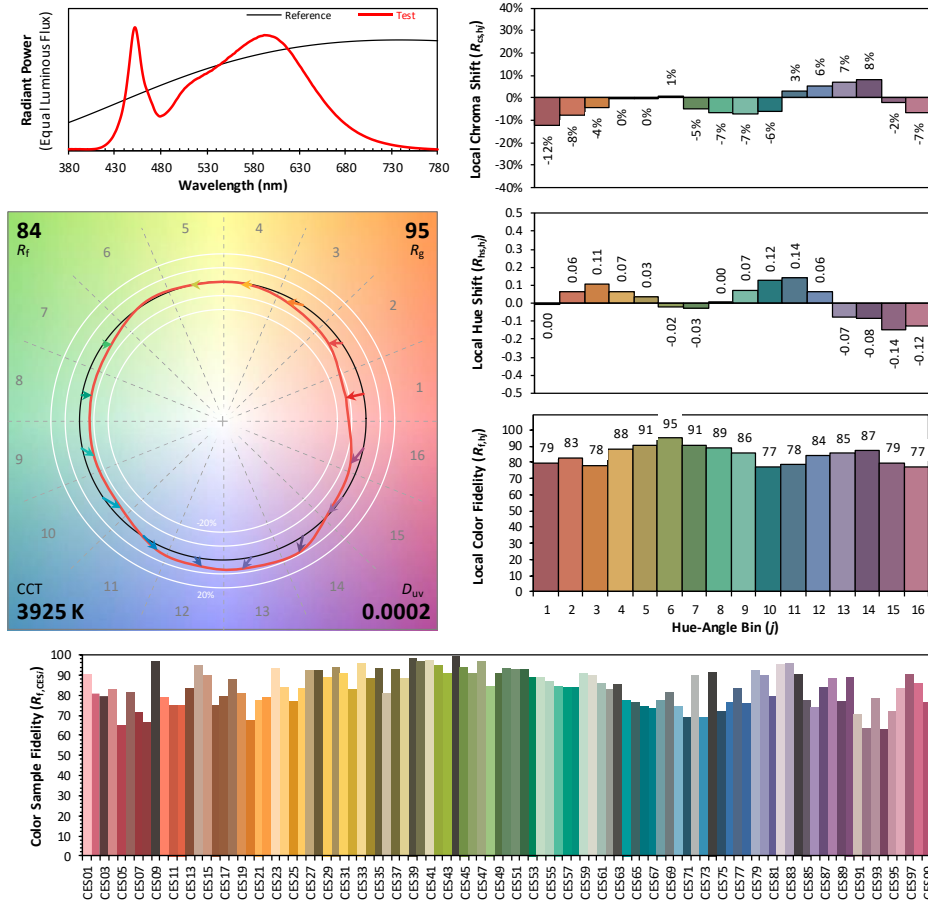
x: 0.3840 u: 0.2264 u': 0.2264  
y: 0.3794 v: 0.3355 v': 0.5033

ResultsCRICRI01	80.4	ResultsCRICRI09	4.8
ResultsCRICRI02	89.8	ResultsCRICRI10	76.0
ResultsCRICRI03	95.5	ResultsCRICRI11	79.1
ResultsCRICRI04	80.4	ResultsCRICRI12	63.8
ResultsCRICRI05	81.0	ResultsCRICRI13	82.8
ResultsCRICRI06	86.2	ResultsCRICRI14	97.9
ResultsCRICRI07	84.6	ResultsCRICRI15	73.8
ResultsCRICRI08	62.0	ResultsCRICRI16	71.3
ResultsCRI	82.5		



PlanckDistance 2.0E-004

## 4.1 Integrating Sphere Test



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

$x$  0.3840  
 $y$  0.3794  
 $u'$  0.2264  
 $v'$  0.5033

CIE 13.3-1995  
(CRI)  
 $R_a$  83  
 $R_g$  6

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.	ALEDL2TN480	Sample ID.	O1
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  $\pm 0.2$  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  $0.5^{\circ}$  vertical intervals and  $10^{\circ}$  horizontal intervals.

#### Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WORST CASE	479.91	60	0.571	263.7	0.962

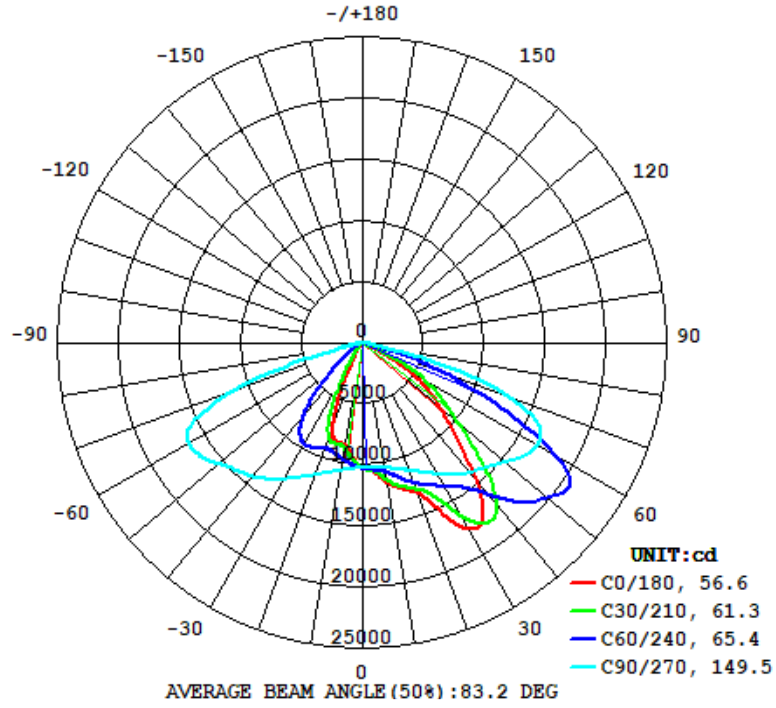
#### Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
37425	94.0	157.9	56.6	149.5	141.9

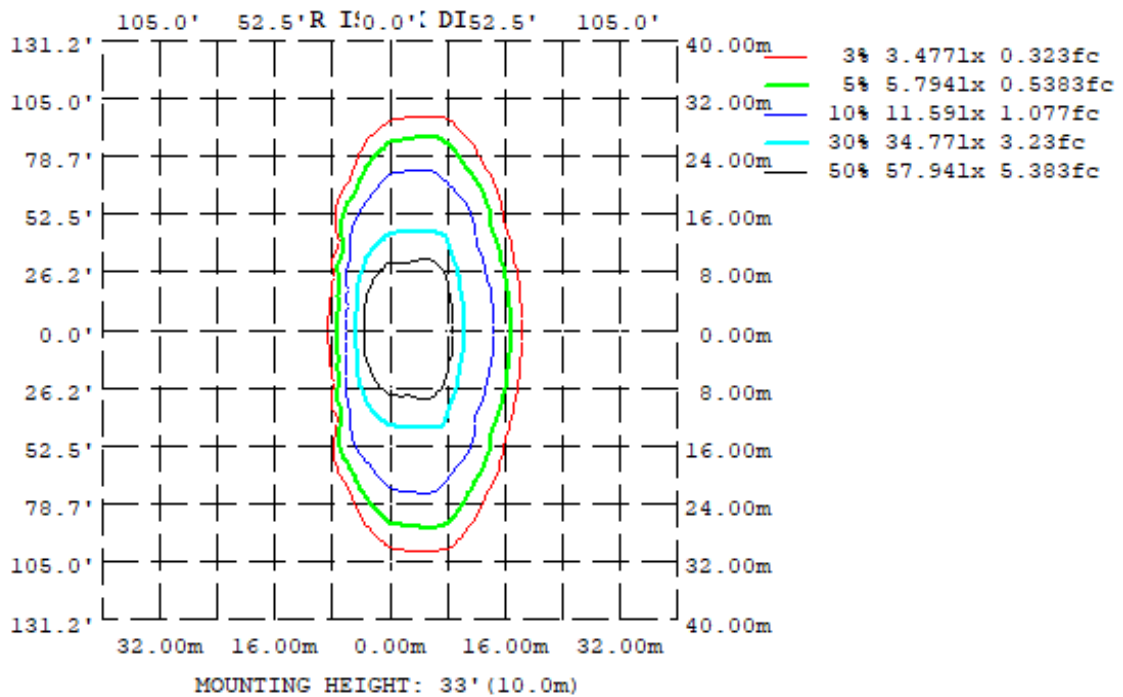
Zonal Lumen Requirement ( $0^{\circ}$ - $90^{\circ}$ )	Zonal Lumen Requirement ( $80^{\circ}$ - $90^{\circ}$ )	BUG rating
100.00%	0.21%	B4-U0-G3

## 4.2 Goniophotometer Test

### Light Distribution Curve



### Isolux Plot



## 4.2 Goniophotometer Test

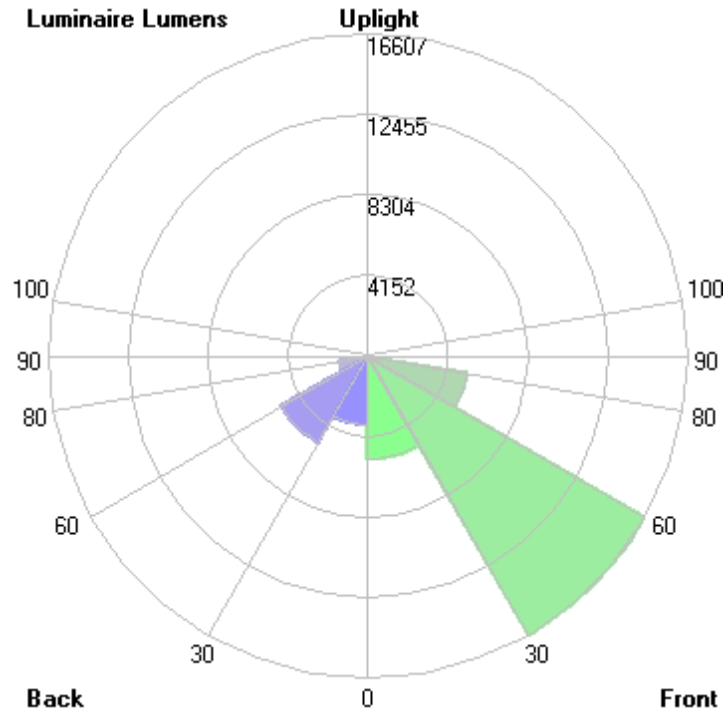
### Zonal Lumen Summary

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315
10	1159	1099	1039	900.7	851.0	918.4	1059	1100
20	1304	1252	1112	861.2	723.0	885.9	1147	1265
30	1764	1439	1242	667.2	198.1	665.9	1287	1472
40	1449	1868	1382	252.2	83.21	231.2	1428	1922
50	851.1	1620	1522	95.33	13.38	90.49	1547	1702
60	382.8	798.9	1662	18.92	9.642	17.06	1646	820.2
70	27.09	196.4	1265	13.33	5.666	13.11	1105	188.3
80	7.448	18.48	86.93	2.591	1.126	2.179	58.05	17.08
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	<b>LUMINOUS INTENSITY: *10cd</b>							

	Zonal (lm)		Total (lm)	Percent
0-10	968.32	0 - 10	968.32	2.59%
10-20	2958.53	0 - 20	3926.85	10.49%
20-30	4963.69	0 - 30	8890.54	23.76%
30-40	6865.35	0 - 40	15755.89	42.10%
40-50	7644.72	0 - 50	23400.61	62.53%
50-60	7254.68	0 - 60	30655.29	81.91%
60-70	5183.82	0 - 70	35839.11	95.76%
70-80	1506.26	0 - 80	37345.37	99.79%
80-90	79.66	0 - 90	37425.03	100.00%
90-100	0.00	0 - 100	37425.03	100.00%
100-110	0.00	0 - 110	37425.03	100.00%
110-120	0.00	0 - 120	37425.03	100.00%
120-130	0.00	0 - 130	37425.03	100.00%
130-140	0.00	0 - 140	37425.03	100.00%
140-150	0.00	0 - 150	37425.03	100.00%
150-160	0.00	0 - 160	37425.03	100.00%
160-170	0.00	0 - 170	37425.03	100.00%
170-180	0.00	0 - 180	37425.03	100.00%

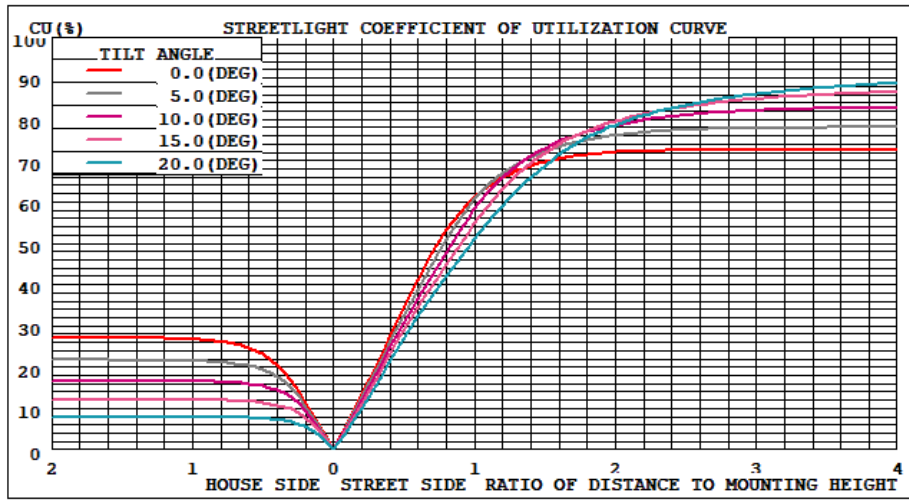
## 4.2 Goniophotometer Test

LCS/BUG

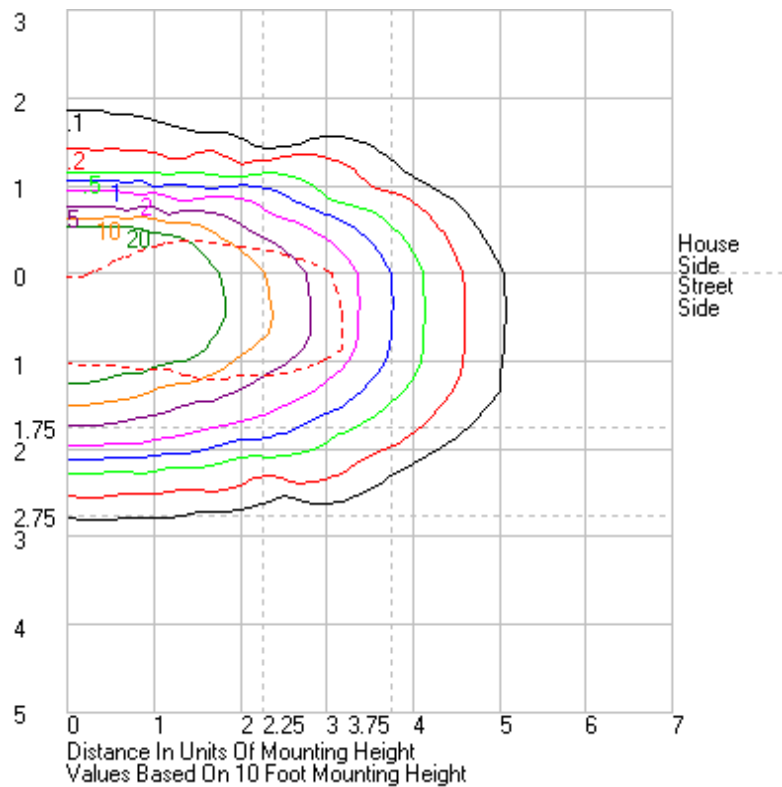


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	5347.4	N.A.	14.3
FM - Front-Medium (30-60)	16607.2	N.A.	44.4
FH - Front-High (60-80)	5205.2	N.A.	13.9
FVH - Front-Very High (80-90)	59.8	N.A.	0.2
BL - Back-Low (0-30)	3543.2	N.A.	9.5
BM - Back-Medium (30-60)	5157.6	N.A.	13.8
BH - Back-High (60-80)	1484.8	N.A.	4.0
BVH - Back-Very High (80-90)	19.8	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>37425.0</b>	<b>N.A.</b>	<b>100.0</b>
<b>BUG Rating</b>	<b>B4-U0-G3</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	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	10261.4	
1	10363.2	10355.9	10346.7	10333.5	10317.9	10299.5	10230.3	10205.9	10181.4	10160.3	10141.7	10131.5	10207.8	10210.6	10221.7	10236.7	10255.6	10276.9	10246	10261.9	10271.4	10280.2	10283.3	10285.2	10285.2	10363.2
2	10422.7	10412.1	10395.2	10375	10346.7	10315.2	10227.9	10181	10130.6	10082.3	10035.5	10006.1	10074.1	10088.5	10123.1	10169.9	10222.2	10269.1	10262	10291.2	10307.7	10327.5	10339.2	10342.7	10342.7	10422.7
3	10475.8	10464.7	10444.4	10416.6	10380	10336.7	10232.2	10163	10076.5	9977.95	9887.46	9826.94	9894.21	9916.76	9983.37	10077.4	10180	10265.3	10279.9	10320.4	10356.6	10383	10392.8	10397.1	10475.8	
4	10522.9	10508.8	10490.4	10462	10417.9	10362.1	10243.6	10144.9	10007.1	9851.28	9709.58	9629.26	9687.64	9725.53	9823.62	9962.15	10123.9	10262.6	10300.8	10359.5	10402.6	10431.3	10441.6	10444.7	10522.9	
5	10595.4	10574.7	10538.8	10505.4	10458.8	10391.8	10256.6	10129.2	9927.62	9711.15	9534.45	9438.52	9486.63	9537.39	9654.57	9838.33	10060.4	10263.6	10331.7	10406.2	10452.7	10478.5	10493.8	10510.9	10595.4	
6	10704.3	10671.3	10612.9	10550.5	10502.4	10426.7	10274.5	10111.1	9842.35	9568.97	9365.14	9237.66	9286.06	9346.75	9492.72	9711.05	9996.41	10266.9	10372.1	10462.1	10510	10536.7	10571.9	10610.2	10704.3	
7	10885.7	10832.8	10720.6	10620.7	10545.9	10463.1	10290.8	10093.5	9752.33	9433.48	9183.96	9022.13	9050.38	9129.68	9322.18	9592.81	9924.06	10266.7	10417.5	10520.1	10567.9	10612.6	10682.6	10770.5	10885.7	
8	11112	11050.4	10885.2	10704.9	10592.1	10508.2	10322.2	10081.9	9664.14	9301.73	8994.09	8796.52	8818.1	8903.49	9129.85	9470	9851.19	10268.5	10471.2	10588.4	10634.9	10704.6	10852.4	10988.2	11112	
9	11367.7	11291.7	11102.2	10830.8	10654.2	10557.2	10355.4	10061.6	9576.48	9152.17	8791.4	8601.17	8628.61	8708.76	8933.48	9329.52	9785.55	10269.2	10525.6	10657.6	10711.2	10838.2	11061.7	11228.6	11367.7	
10	11587.3	11519.9	11322.1	10994	10726	10609.1	10394.1	10048.1	9499.79	9007.2	8623.25	8456.4	8509.6	8566.66	8765.16	9184.3	9720.81	10274.5	10588.9	10731.8	10797.4	11004.2	11285.7	11461.3	11587.3	
11	11787	11723.1	11536.7	11188.8	10809.5	10672.8	10440.8	10039.2	9428.06	8852.17	8486.92	8397.16	8469.27	8510.88	8642.17	9037.7	9658.21	10279.6	10655	10812.4	10896.4	11206.5	11506.6	11661	11787	
12	11953.5	11890	11725	11384.6	10915.3	10736.2	10493.3	10025.5	9344.25	8714.22	8425.76	8378.53	8458.24	8494.49	8585.89	8914.33	9588.96	10285.7	10726	10899.4	11020.2	11409	11704.7	11833.1	11953.5	
13	12109.2	12052.9	11889	11578.4	11049.7	10803.8	10552.4	10020.1	9266.19	8609.6	8403.18	8375.97	8470.17	8494.21	8567.94	8812.99	9516.68	10290.6	10805.3	10987.6	11165.2	11620.3	11877.5	12000.4	12109.2	
14	12215.9	12151.8	12041.2	11749.9	11207.8	10880	10617.8	10014.7	9178.11	8538.47	8400.79	8402.52	8473.46	8509.98	8569.03	8759.81	9439.16	10300.9	10885.4	11082	11331.5	11810.2	12037	12102	12215.9	
15	12348	12294.9	12162.2	11906.4	11374.6	10957	10681.4	10014.4	9098.69	8515.66	8420.59	8396.66	8443.42	8498.16	8589.52	8747.82	9362.76	10315.4	10967.4	11178.1	11504	11981.5	12178.7	12244	12348	
16	12446.1	12415.4	12272.7	12049.4	11549.1	11048.7	10761.3	10027.7	9022.72	8515.32	8440.97	8350.54	8358.92	8439.64	8598.28	8755.15	9294.05	10333.1	11060.6	11282.4	11687.4	12139.1	12280.4	12373.2	12446.1	
17	12623.8	12536.4	12397.1	12186.4	11719.5	11142	10839.4	10034.6	8961.61	8530.69	8434.91	8252.25	8202.93	8329.74	8580.4	8781.68	9245.08	10352.2	11150.6	11389.6	11873.8	12289.5	12409.8	12492.4	12623.8	
18	12749.2	12677.1	12496.1	12298.1	11886.9	11242	10926.3	10060.6	8921.05	8557.29	8388.46	8070.15	7960.51	8132.37	8520.79	8814.44	9205.16	10378.8	11253.3	11505.4	12060.3	12423.2	12525.4	12640.3	12749.2	
19	12890.3	12821.6	12638.3	12388.5	12044.2	11359.7	11022.8	10086	8889.43	8590.83	8288.53	7811.95	7640.72	7863.53	8408.49	8844.58	9193.26	10407.3	11361	11632.3	12236.7	12516.4	12659.7	12788	12890.3	
20	13040.2	12916	12757.1	12519.1	12186.8	11468.7	11115.4	10105.9	8894.91	8611.69	8119.83	7473.2	7229.78	7506.68	8216.49	8859.38	9208.94	10439.9	11470.7	11765.5	12404.2	12649.4	12811.2	12898.9	13040.2	
21	13287.9	13125.5	12900.1	12636.1	12340.3	11601.2	11222.5	10149	8925.92	8612.27	7893.83	7057.51	6736.61	7082.89	7967.59	8843.86	9245.58	10475.7	11590.5	11912.3	12570.5	12780	12966	13106.6	13287.9	
22	13655.5	13441.7	12996.3	12715.1	12471.4	11743.4	11327.8	10171.4	8964.03	8574.8	7598.52	6499.92	6178.44	6574.46	7653.72	8795.49	9300.17	10511.5	11710.4	12074.1	12723.8	12873.6	13098	13381.9	13655.5	
23	14025.7	13816.3	13194.4	12882.1	12610.6	11890.8	11438.1	10209.6	9018.68	8499.89	7227.44	5982.58	5588.87	6004.99	7267.86	8691.1	9360.34	10553.4	11841.9	12248.1	12880.3	13055.9	13288.1	13740.6	14025.7	
24	14585.3	14191	13461.3	13009.7	12741.4	12070.1	11563.2	10258.9	9074.47	8369.94	6798.07	5467.79	4962.68	5423.44	6815.19	8540.75	9424	10597.7	11977.9	12429.8	13035.8	13224.2	13564	14197.9	14585.3	
25	15214.9	14759.5	13783.7	13167.8	12829.7	12240.4	11684	10287.8	9128.22	8201.5	6279.6	4866.02	4335.22	4815.17	6318.2	8347.77	9495.17	10641.9	12112.3	12617.3	13162.2	13396.9	13891.3	14782.1	15214.9	
26	15835.9	15373.3	14156.6	13323.6	12975.1	12436.3	11820.6	10341.1	9197.52	7989.45	5815.24	4245.66	3723.85	4195.84	5792.99	8101.23	9562.93	10689.6	12257.9	12818.8	13293.2	13591.5	14298.9	15402.3	15835.9	
27	16432.8	15967	14682.2	13484.5	13118.4	12632.9	11963.5	10378.5	9252.47	7724.16	5321.52	3666.55	3166.57	3611.9	5241.81	7810.75	9610.16	10733.4	12405.8	13028.9	13464.8	13761.8	14822.3	16007.6	16432.8	
28	16968.8	16541.5	15260.4	13736.2	13271.9	12812.5	12105	10426.6	9294.7	7416.88	4757.51	3129.25	2704.21	3091.67	4671.31	7469.3	9642.49	10780.3	12558.5	13230.9	13614.6	14030.6	15412.9	16579.7	16968.8	
29	17375.3	17045.6	15832.8	14018.4	13401.3	13016	12266.6	10489	9322.05	7064.02	4217.93	2678.91	2322.25	2648.99	4105.7	7077.88	9645.76	10840.7	12712.8	13441.2	13770.6	14348	15997.1	17089.9	17375.3	
30	17636.1	17415.6	16408.2	14395	13555.7	13202.1	12416	10529	9317.86	6671.73	3681.1	2310.25	1980.71	2275.46	3575.17	6659.4	9617.97	10909.5	12869.8	13654.4	13903.4	14719.8	16582.2	17462.1	17636.1	
31	17778.9	17643.4	16921.8	14826	13710.4	13395	12572.8	10609.7	9308.79	6256.35	3208.76	1986.35	1683.44	1954.94	3116.95	6217.88	9558.21	10986	13034.3	13860	14110.2	15124.1	17096.9	17704.1	17778.9	
32	17819.5	17765.5	17344.4	15341.4	13866.1	13538.9	12726.2	10678.6	9251.54	5840.89	2797.93	1687.67	1486.81	1659.1	2716.17	5736.61	9469.93	11061.8	13190.2	14063	14323.4	15635.4	17548.3	17838	17819.5	
33	17760.8	17794.8	17650.9	15910.5	14050.1	13682.8	12874.1	10744.6	9169.41	5391.96	2443.02	1438.11	1290.19	1471.94	2365.93	5237.63	9347.28	11145.3	13345.4	14247.1	14518.8	16219	17868	17873.2	17760.8	
34	17590.3	17728.2	17844.5	16455.5	14279.1	13845.7	13032.7	10842.9	9067.58	4931.53	2130.53	1255.82	1151.05	1284.78	2043.33	4739.53	9194.42	11243.6	13499.9	14429.2	14754.3	16785	18089.8	17814.1	17590.3	
35	17335.8	17553.3	17949.7	16995.3	14476.6	14004.8	13177	10910.5	8905.55	4438.06	1828.69	1146.51	1095.85	1151.48	1748.26	4249.94	9003.14	11342.7	13641.5	14593.7	14993	17349.4	18210.9	17654.9	17335.8	
36	17002.4	17296.9	17981.3	17496.3	14726.2	14165.8	13321.1	11011.7	8731.56	3989.24	1569.98	1087	1049.46	1094.21	1536.61	3796.05	8775.46	11448.1	13772.1	14756.4	15223	17863.8	18269.1	17419.1	17002.4	
37	16529.4	16938.1	17927.2	17918.1	15039.5	14321	13467.3	11132.2	8519.39	3576.02	1364.2	1040.25	1004.08	1047.52	1375.34	3385.43	8509.48	11550.2	13901	14903	15527.3	18333.4	18246.1	17085.5	16529.4	
38	15970.4	16464.6	17783.7	18252.9	15391	14444.8	13597.1	11233	8263.02	3198.68	1224.58	996.51	954.81	1002.55	1216.7	3011.61	8200.41	11652.4	14036.9	15034.4	15876.7	18691.4	18134.			







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.	ALEDL2TN480	Sample ID.	O1
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
480.06	60	0.570	263.5	0.963	4.86%

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