



# Photometric Test Report

## Relevant Standards

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

## Prepared For RAB Lighting Inc.

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DLF2111113-16a

## Test Date

2021/11/26

## Issue Date

2021/12/2

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### Approved By

*Kevin Jia*

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	38288	
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Standard 105	Premium 120	145.0
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case	264.0	
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	4.36%	
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	0.964	
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3985±275	3939
		4 step	3985±154	
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	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%	0.89%	
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	0.572	

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/11/26	ALEDL3TN/480	P1
2	Goniophotometer Test	2021/11/26	ALEDL3TN/480	P1
3	THD and PF Test	2021/11/26	ALEDL3TN/480	P1

### 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.

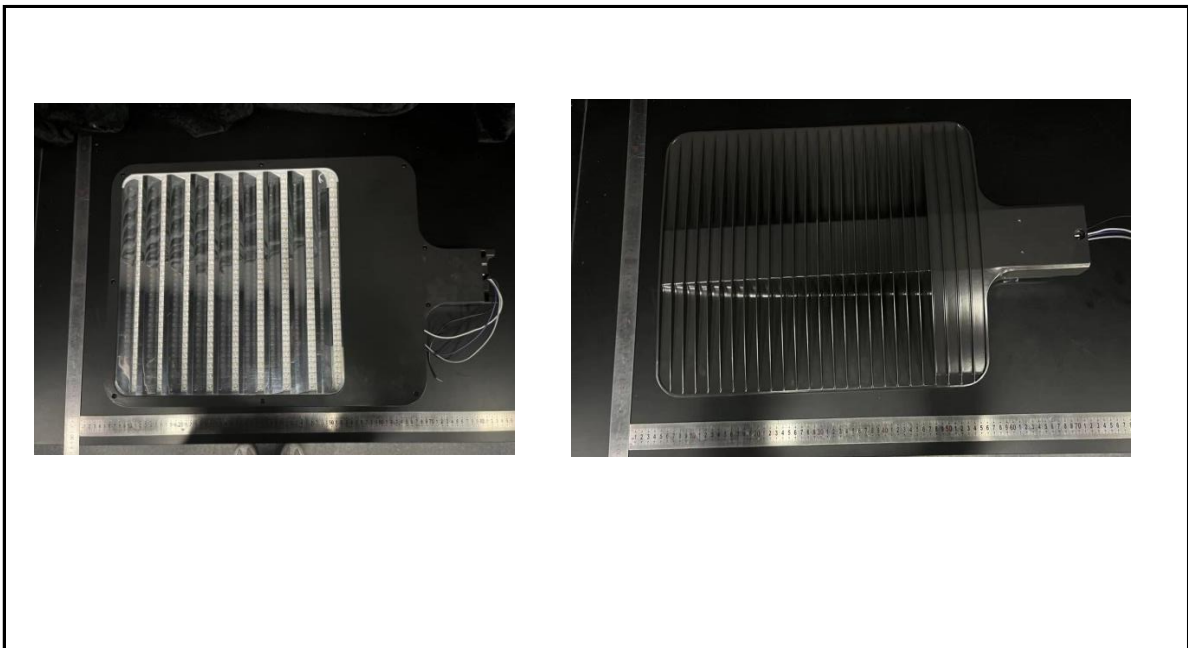
## 3.0 Production Description

**Luminaire Description:** ALEDL3TN/480

**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.	ALEDL3TN/480	Sample ID.	P1
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
480.05	60	0.571	263.9	0.964

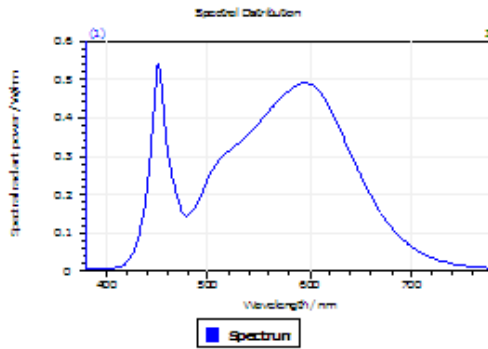
#### Test Result

CCT (K)	CRI	R9	Duv
3939	82	4	0.00054

Rf	Rg	IES Rcs,h1
84	95	-12%

## 4.1 Integrating Sphere Test

### Results



#### Spectral values

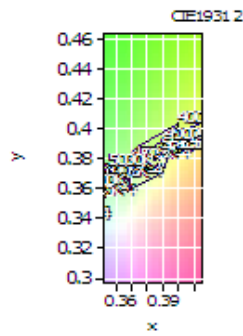
DominantWavelength	579.03 nm
Purity	0.291
PeakWavelength	451.37 nm
Radiant Power	85.06 W
Width50%	20.87 nm

#### Color Coordinates

Correlated Color Temperatur 3939 K

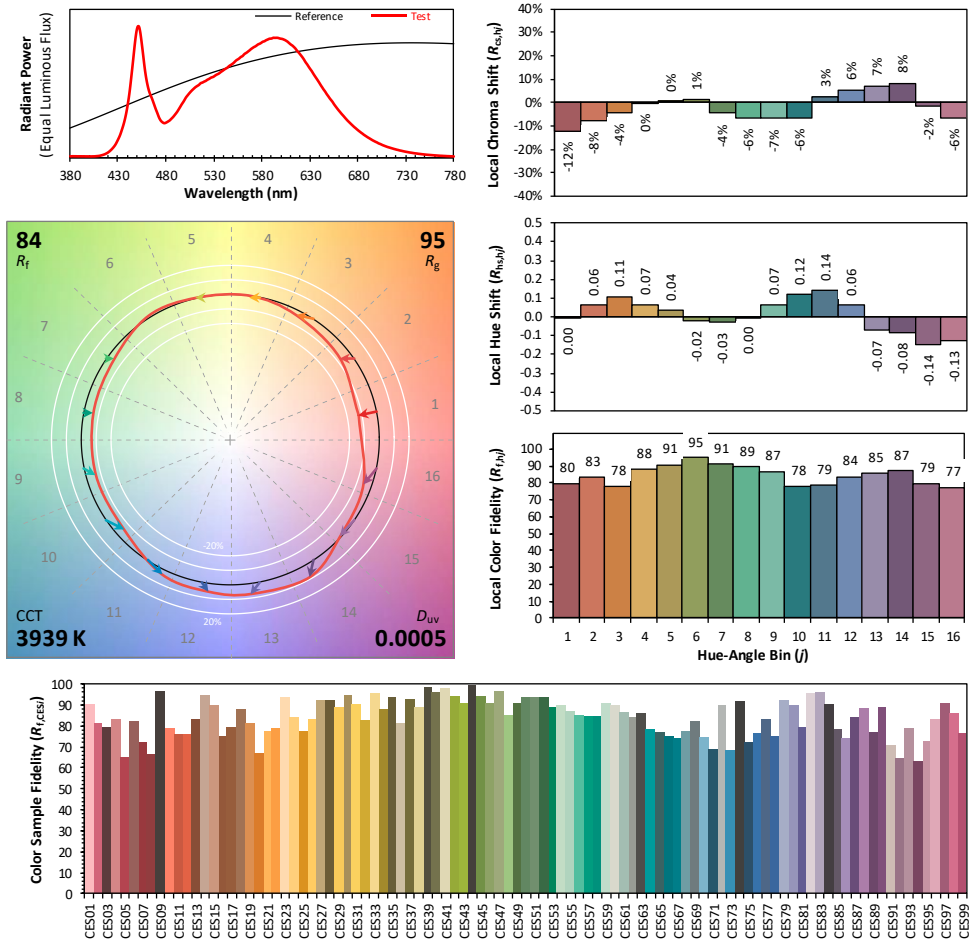
x: 0.3835 u: 0.2259 u': 0.2259  
y: 0.3798 v: 0.3358 v': 0.5034

ResultsCRICRI01	80.3	ResultsCRICRI09	4.4
ResultsCRICRI02	89.6	ResultsCRICRI10	75.8
ResultsCRICRI03	95.4	ResultsCRICRI11	79.4
ResultsCRICRI04	80.5	ResultsCRICRI12	64.0
ResultsCRICRI05	80.9	ResultsCRICRI13	82.6
ResultsCRICRI06	86.1	ResultsCRICRI14	97.8
ResultsCRICRI07	84.6	ResultsCRICRI15	73.5
ResultsCRICRI08	61.9	ResultsCRICRI16	71.1
ResultsCRI	82.4		



PlankDistance 5.2E-004

### 4.1 Integrating Sphere Test



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

$x$     **0.3835**  
 $y$     **0.3798**  
 $u'$    **0.2259**  
 $v'$    **0.5034**

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.	ALEDL3TN/480	Sample ID.	P1
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	480.01	60	0.572	264.0	0.962

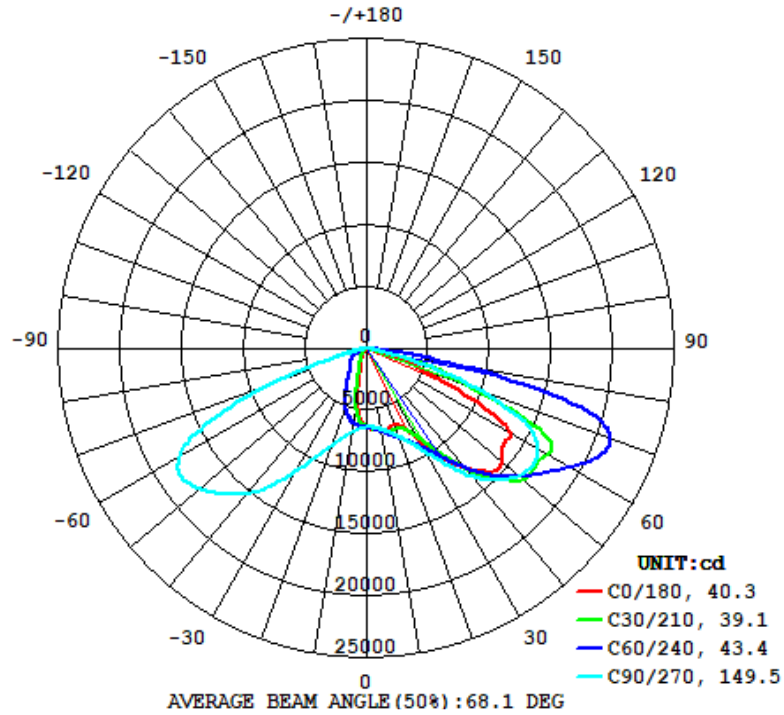
#### Test Result

Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
38288	94.8	159.7	40.3	149.5	145.0

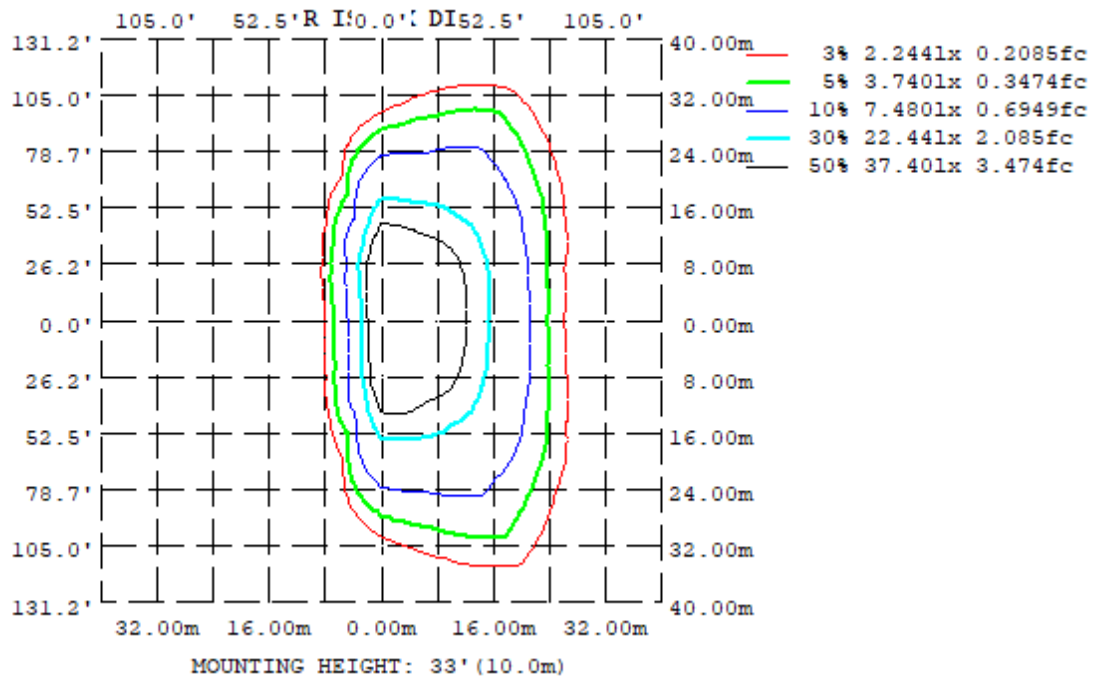
Zonal Lumen Requirement (0°-90°)	Zonal Lumen Requirement (80°-90°)	BUG rating
100.00%	0.89%	B3-U0-G4

## 4.2 Goniophotometer Test

### Light Distribution Curve



### Isolux Plot



## 4.2 Goniophotometer Test

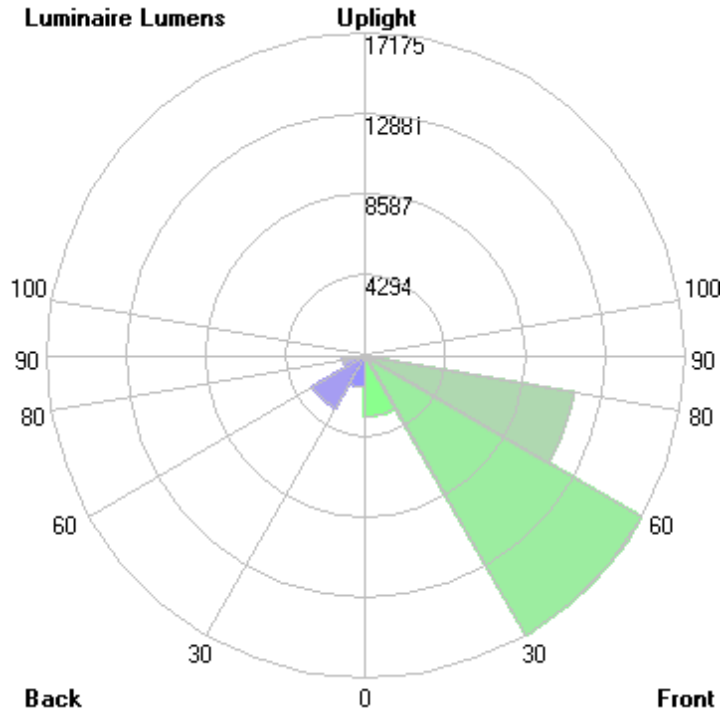
### Zonal Lumen Summary

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315
10	680.7	683.0	665.5	535.4	442.1	556.4	683.7	692.6
20	663.3	738.5	761.2	272.1	143.4	304.1	830.7	761.0
30	843.4	845.6	967.1	139.4	80.31	155.0	1135	914.4
40	1272	1208	1361	101.6	42.21	120.4	1536	1326
50	1440	1735	1606	66.30	22.94	81.40	1771	1849
60	1343	1974	1612	39.15	13.19	44.06	1753	2070
70	416.4	1718	951.1	17.30	3.862	19.07	846.3	1498
80	34.44	338.7	72.81	3.660	1.391	3.422	56.44	230.3
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	601.48	0 - 10	601.48	1.57%
10-20	1651.55	0 - 20	2253.03	5.88%
20-30	2688.00	0 - 30	4941.03	12.90%
30-40	4556.76	0 - 40	9497.79	24.81%
40-50	7038.97	0 - 50	16536.76	43.19%
50-60	8835.06	0 - 60	25371.82	66.27%
60-70	8564.5	0 - 70	33936.32	88.63%
70-80	4010.1	0 - 80	37946.42	99.11%
80-90	341.97	0 - 90	38288.39	100.00%
90-100	0.00	0 - 100	38288.39	100.00%
100-110	0.00	0 - 110	38288.39	100.00%
110-120	0.00	0 - 120	38288.39	100.00%
120-130	0.00	0 - 130	38288.39	100.00%
130-140	0.00	0 - 140	38288.39	100.00%
140-150	0.00	0 - 150	38288.39	100.00%
150-160	0.00	0 - 160	38288.39	100.00%
160-170	0.00	0 - 170	38288.39	100.00%
170-180	0.00	0 - 180	38288.39	100.00%

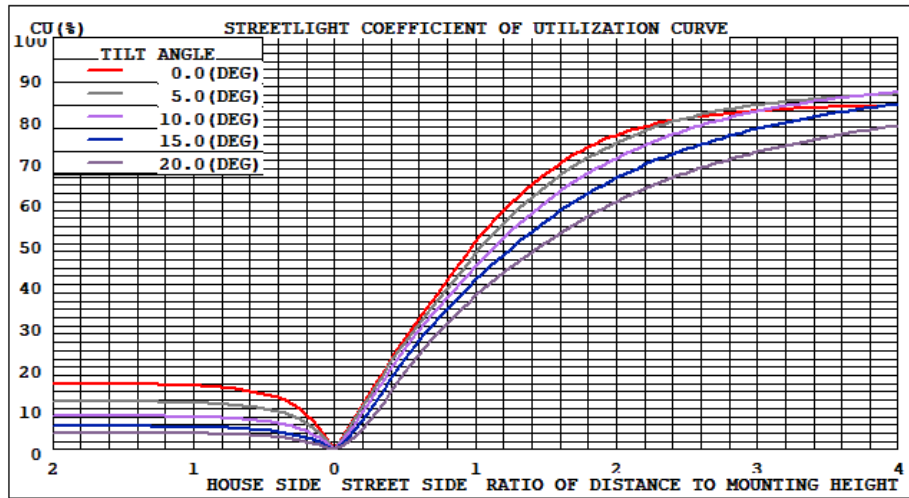
## 4.2 Goniophotometer Test

LCS/BUG

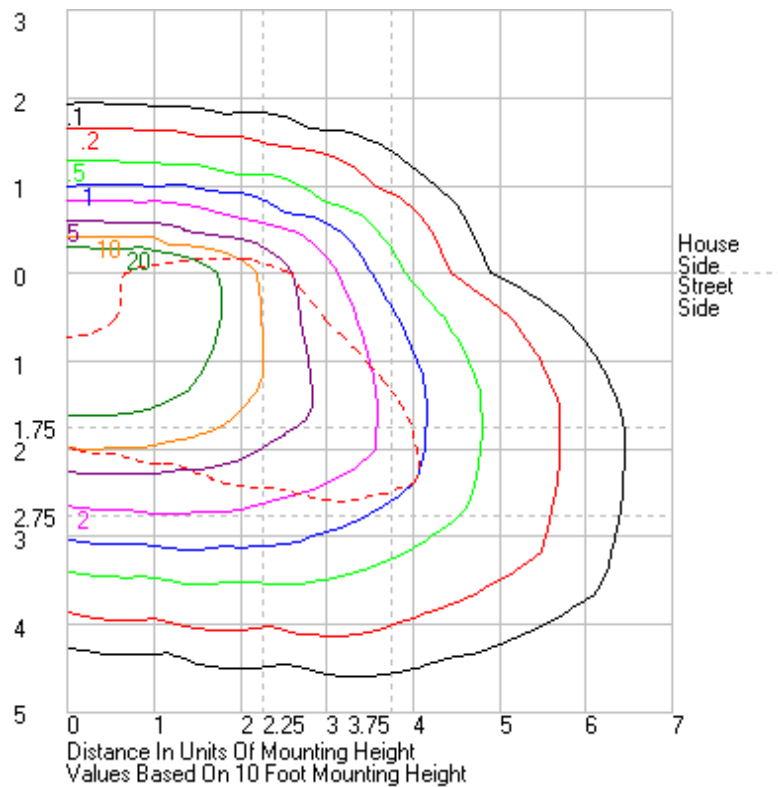


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	3233.0	N.A.	8.4
FM - Front-Medium (30-60)	17174.7	N.A.	44.9
FH - Front-High (60-80)	11363.5	N.A.	29.7
FVH - Front-Very High (80-90)	318.6	N.A.	0.8
BL - Back-Low (0-30)	1708.0	N.A.	4.5
BM - Back-Medium (30-60)	3256.1	N.A.	8.5
BH - Back-High (60-80)	1211.1	N.A.	3.2
BVH - Back-Very High (80-90)	23.3	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
<b>Total</b>	<b>38288.3</b>	<b>N.A.</b>	<b>100.0</b>
<b>BUG Rating</b>	<b>B3-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	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4	6397.4
1	6449.96	6441.96	6432.86	6424.08	6413.51	6401.84	6388.49	6374.52	6361.17	6349.34	6338.48	6333.01	6354.86	6358.46	6367.05	6376.98	6388.47	6400.35	6410.41	6418.76	6425.54	6428.46	6430.88	6428.6	6449.96
2	6494.97	6483.46	6469.53	6453.16	6431.79	6413.08	6388.88	6362.98	6332.09	6305.57	6279.03	6261.43	6286.59	6295.4	6316.35	6346.66	6376.84	6407.43	6432.63	6450.98	6464.21	6473.81	6476.87	6475.96	6494.97
3	6546.34	6531.42	6511.85	6489.29	6459.97	6431.23	6398.22	6354.43	6306.58	6252.93	6204.3	6169.5	6186.9	6209.38	6254.08	6309.53	6368.21	6420.58	6461.69	6489.28	6510.65	6523.07	6528.87	6528.31	6546.34
4	6593.98	6576.11	6555.71	6530.57	6495.81	6455.87	6414.75	6354.1	6275.65	6186.32	6094.08	6031.36	6048.69	6083.91	6162.74	6261.84	6357.63	6438	6496.45	6533.41	6561.69	6578.82	6584.2	6578.36	6593.98
5	6638.44	6617.36	6597.47	6573.98	6536.28	6491	6440.46	6359.2	6246.43	6100.38	5957.79	5853.59	5868.42	5918.9	6041.07	6196.49	6346.51	6459.38	6538.39	6580.58	6608.17	6593.28	6589.05	6615.68	6638.44
6	6678.23	6656.77	6638.93	6616.12	6581.54	6528.88	6468.85	6364.69	6207.59	5992.86	5785.64	5644.22	5643.99	5716.49	5883.86	6111.79	6331.01	6492.41	6584.54	6626.98	6654.64	6611.39	6594.61	6644.37	6678.23
7	6717.7	6696.47	6680.4	6659.75	6629.99	6575.88	6505.22	6376.81	6156.68	5861.19	5581.32	5398.34	5387.77	5483.09	5702	6002.31	6306.45	6526.73	6628.77	6673.96	6713.01	6717.95	6702.66	6673.36	6717.7
8	6757.17	6735.91	6722.44	6710.31	6685.7	6631.99	6551.48	6390.13	6102.35	5712.94	5359.43	5126.32	5106.93	5218.01	5491.61	5876.59	6274.93	6562.49	6673.32	6751.36	6790.19	6785.53	6752.97	6720.08	6757.17
9	6787.05	6770.49	6771.31	6767	6747.76	6690.34	6599.46	6407.08	6025.1	5538.07	5107.97	4822.49	4789.46	4925.8	5257.47	5726.88	6234.05	6606.02	6750.3	6837.04	6871.56	6848.65	6813.43	6760.94	6787.05
10	6807.38	6798.67	6817.71	6829.83	6815.49	6761.2	6655.25	6424.07	5945.57	5353.73	4840.18	4490.27	4421	4595.81	5007.84	5563.65	6180.03	6651.77	6836.71	6932.55	6958.95	6926.12	6863.68	6792.15	6807.38
11	6816.47	6818.15	6859.29	6895.68	6888.4	6834.49	6715.69	6431.42	5851.11	5153.63	4525.21	4104.81	4037.33	4225.63	4712.26	5380.7	6118.16	6706.12	6935.76	7034.73	7055.09	7004.6	6909.29	6814.16	6816.47
12	6813.09	6828.2	6898.09	6957.99	6965.65	6911.68	6782.38	6444.04	6025.1	5338.07	4189.34	3711.52	3624.02	3832.41	4386.27	5184.6	6044.29	6758.78	7038.21	7154.59	7154.13	7080.9	6949.9	6823.11	6813.09
13	6795.51	6824.47	6932.5	7022.05	7050.24	7003.94	6859.5	6455.88	5626.14	4688.89	3838.05	3327.07	3223.77	3442.68	4043.49	4964	5960.35	6814.53	7152.71	7276.66	7266.81	7152	6981.17	6818.32	6795.51
14	6776.13	6812.67	6952.21	7082.61	7134.48	7091.11	6938.35	6462	5493.77	4411.78	3469.04	2940.08	2859.7	3067.42	3678.69	4711.52	5868.77	6877.22	7290.25	7409.78	7385.32	7220.31	7000.86	6809.44	6776.13
15	6748.22	6798	6964.12	7143.57	7226.24	7192.12	7029.06	6472.95	5362.07	4127.12	3139.29	2625.95	2533.23	2732.7	3335.07	4446.78	5767.81	6936.93	7434.45	7558.9	7500.19	7290.64	7011.91	6795.7	6748.22
16	6708.9	6771.11	6972.18	7201.83	7324.52	7305.28	7129.01	6478.04	5217.07	3826.81	2814.72	2326.28	2240.42	2428.19	3002.09	4152.18	5663.24	7006	7589.26	7717.77	7629.17	7354.26	7027.89	6772.97	6708.9
17	6666.27	6739.73	6975.96	7251.37	7417.52	7417.21	7234.32	6479.8	5049.21	3527.25	2531.83	2070.98	1985.61	2164.04	2705.42	3862.93	5549.03	7071.62	7753.41	7888.86	7755.21	7414.26	7036.62	6742.06	6666.27
18	6633.59	6706	6972.87	7298.22	7524.28	7556.83	7354.49	6485.67	4887.8	3239.92	2285	1841.61	1756.18	1927.06	2440.73	3572.18	5417.46	7131.54	7924.27	8060.46	7893.5	7473.38	7041.11	6708.46	6633.59
19	6617.57	6685.47	6965.63	7337.71	7627.43	7687.72	7476.95	6481.44	4691.5	2963.93	2058.75	1639.73	1564.31	1718.62	2211.72	3299.14	5273.75	7198.35	8107.29	8247.21	8027.33	7534.9	7043.52	6697.29	6617.57
20	6633.23	6687.27	6959.3	7384.97	7737.82	7836.79	7612.26	6482.31	4495.71	2720.69	1858.98	1478.74	1434.24	1548.49	2004.08	3041.04	5118.84	7260.72	8306.83	8451.22	8170.86	7610.27	7053.32	6711.46	6633.23
21	6667.29	6711.06	6967.88	7435.52	7859.96	8001.62	7760.85	6480.41	4296.22	2499.77	1677.18	1354.72	1325.89	1431.96	1819.34	2809.45	4949.88	7325.25	8516.83	8661.8	8322.82	7684.27	7089.04	6743	6667.29
22	6724.12	6752.15	6998.12	7481.76	7970.73	8148.4	7900.53	6471.81	4078.1	2302.53	1534.57	1263.01	1231.72	1335.45	1664.48	2595.72	4768.73	7399.48	8750.26	8891.38	8477.28	7767.74	7148.64	6798.18	6724.12
23	6821.72	6825.89	7054.42	7542.82	8097.84	8331.12	8074.98	6472.83	3872.68	2127.32	1420.91	1188.81	1164.2	1253.35	1539.95	2404.37	4576.5	7469.37	8999.26	9138.6	8655.11	7867.35	7228.75	6883.15	6821.72
24	6934.28	6929.77	7118.27	7605.37	8223.2	8519.31	8522.79	6469.4	3658.41	1963.22	1330.8	1127.51	1105.29	1192.09	1443.85	2236.08	4379.02	7549.39	9275.03	9412.23	8838.44	7975.11	7338.18	7005.2	6934.28
25	7079.05	7052.04	7215.71	7688.73	8350.33	8724.57	8434.19	6473.51	3458.38	1819.42	1265.32	1073.84	1050.73	1136.88	1385	2073.61	4175.54	7630.35	9573.03	9717.77	9037.56	8108.66	7482.67	7149.11	7079.05
26	7269.33	7212.66	7353.59	7798.39	8510.09	8976.77	8655.03	6480.44	3270.53	1694.52	1209.33	1022.27	998.56	1083.94	1326.15	1931.59	3978.89	7709.01	9886.21	10029.7	9255.95	8266.56	7662.82	7331.8	7269.33
27	7497.71	7413.03	7505.6	7919.81	8671.96	9206.78	8862.26	6470.01	3085.8	1589.43	1160.59	973.3	949.44	1034.24	1274.54	1802.58	3787.53	7798.15	10227.6	10373.3	9487.25	8444.28	7857.49	7562.8	7497.71
28	7769.63	7659.71	7697.2	8075.86	8873.87	9492.09	9118.52	6474.24	2925.02	1509.84	1114.45	926.11	900.02	986.22	1227.2	1699.4	3600.7	7880.73	10575.8	10726.4	9743.52	8648.3	8090.87	7839.62	7769.63
29	8071.05	7942.59	7918.19	8251.14	9091.57	9793.35	9389.33	6467.5	2769.33	1445.78	1070.52	879.9	851.49	938.24	1181.95	1613.68	3429.18	7963.76	10952.3	11085.4	10010.2	8876.72	8369.68	8153.96	8071.05
30	8434.24	8271.8	8197.18	8455.66	9300.57	10092.7	9671.17	6456.45	2617.91	1393.92	1028.94	831.4	803.12	889.63	1137.71	1549.98	3265.67	8038.05	11350	11478	10285.6	9143.62	8691.26	8506.96	8434.24
31	8854.77	8650.39	8510.78	8704.28	9559.44	10475.7	10022.3	6457.75	2494.56	1351.84	987.54	787.29	756.12	843.08	1093.51	1499.29	3113.77	8099.57	11757.3	11862.6	10589.3	9421.97	9049.4	8911.06	8854.77
32	9327.96	9091.45	8844.71	8947.81	9798.03	10821.4	10340.6	6425.33	2366.01	1308.95	944.09	740.82	709.15	796.54	1048.35	1456.23	2971.52	8152.51	12183.9	12283.1	10898.8	9720.59	9435.58	9374.54	9327.96
33	9814.84	9591.45	9240.46	9239.98	10081.8	11220.3	10719.9	6404.46	2248.15	1269.61	901.54	696.93	668.16	751.31	1002.76	1418.41	2839.2	8187.04	12617.3	12699.9	11224.1	10058	9873.37	9875.81	9814.84
34	10303.9	10077.2	9655.76	9548.05	10402.9	11654.4	11132.4	6372.01	2145.61	1230.61	859.77	670.91	631.87	709.37	958.08	1385.61	2706.81	8205.94	13048.3	13104	11564.4	10407.7	10349.9	10382.3	10303.9
35	10786.1	10595.7	10153.9	9884.66	10705.2	12047.9	11514.8	6310.86	2038.73	1190.51	815.96	634.61	597.77	673.03	913.51	1358.79	2578.6	8206.4	13492.7	13538.4	11919.6	10819.1	10873.9	10897.5	10786.1
36	11234	11094.3	10675.1	10276	11080.3	12551.2	11976	6270.74	1959.82	1158.48	775.2	597.71	563.72	639.85	869.14	1331.98	2458.76	8185.07	13906.4	13945.2	12299.4	11242.5	11426.9	11394.5	11234
37	11649.7	11565.3	11201.3	10668.3	11448.2	12995.4	12376.7	6186.84	1889.61	1122.37	737.3	565.71	529.39	605.71	828.01	1302.78	2345.56	8135.42	14317.3	14350	12665.8	11694.8	11987.4	11869.8	11649.7
38	12028.2	11995.7	11753.2	11101.1	11834.6	13411.4	12795.9	6100.64	1835.91	1087.86	705.02	533.06	493.94	571.15	791.58	1270.88	2248.74	8054.92	14688.8	14740.7	13044.2	12181.5	12538	12303.8	12028.2
39	12381.4																								







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.	ALEDL3TN/480	Sample ID.	P1
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
480.05	60	0.571	263.9	0.964	4.36%

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