

# Photometric Test Report

## Relevant Standards

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

## Prepared For

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## Project Number

**DLF2301106**

## Report Number

**DLF2301106-9a**

## Test Date

**2023/1/11**

## Issue Date

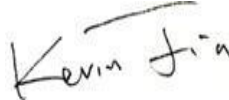
**2023/1/16**

## 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		19771
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		148.9
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	3.37%
		20.00%	277V	8.05%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.999
		0.9	277V	0.957
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3045±175	2922
		4 step	3045±100	
Minimum CRI (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥70		81
Minimum R9 (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	≥-40		1
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		96
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%		0.16%
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		1.242
(Goniophotometer - Section 4.2)		Non-Worst Case		0.548
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		148.9
(Goniophotometer - Section 4.2)		Non-Worst Case		145.3

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2023/1/11	ALEDMATY	I1
2	Goniophotometer Test	2023/1/11	ALEDMATY	I1
3	THD and PF Test	2023/1/11	ALEDMATY	I1

### 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:** ALEDMATY

**Description:** 150W @ 3000K

**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.	ALEDMATY	Sample ID.	I1
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
119.98	60	1.246	149.4	0.999
277.02	60	0.551	146.0	0.957

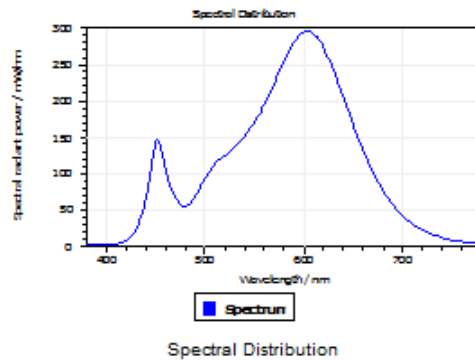
#### Test Result

CCT (K)	CRI	R9	Duv
2922	81	1	0.0015

Rf	Rg	IES Rcs,h1
84	96	-12%

## 4.1 Integrating Sphere Test

### Results

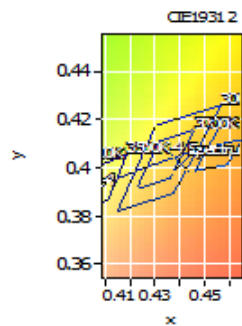


### Spectral values

DominantWavelength 583.68 nm  
Purity 0.527  
PeakWavelength 603.45 nm  
Radiant Power 42.82 W  
Width50%:

### Color Coordinates

Correlated Color Temperat 2922 K  
x: 0.4404 u: 0.2539 u': 0.2539  
y: 0.4015 v: 0.3473 v': 0.5209  
CRI01 80.1 CRI09 1.4  
CRI02 91.8 CRI10 81.9  
CRI03 93.7 CRI11 77.6  
CRI04 78.1 CRI12 75.3  
CRI05 80.3 CRI13 83.1  
CRI06 90.4 CRI14 97.2  
CRI07 80.2 CRI15 72.0  
CRI08 55.1 CRI16 69.1  
ResultsCRI 81.2



PlanckDistance 1.5E-003

## 4.1 Integrating Sphere Test

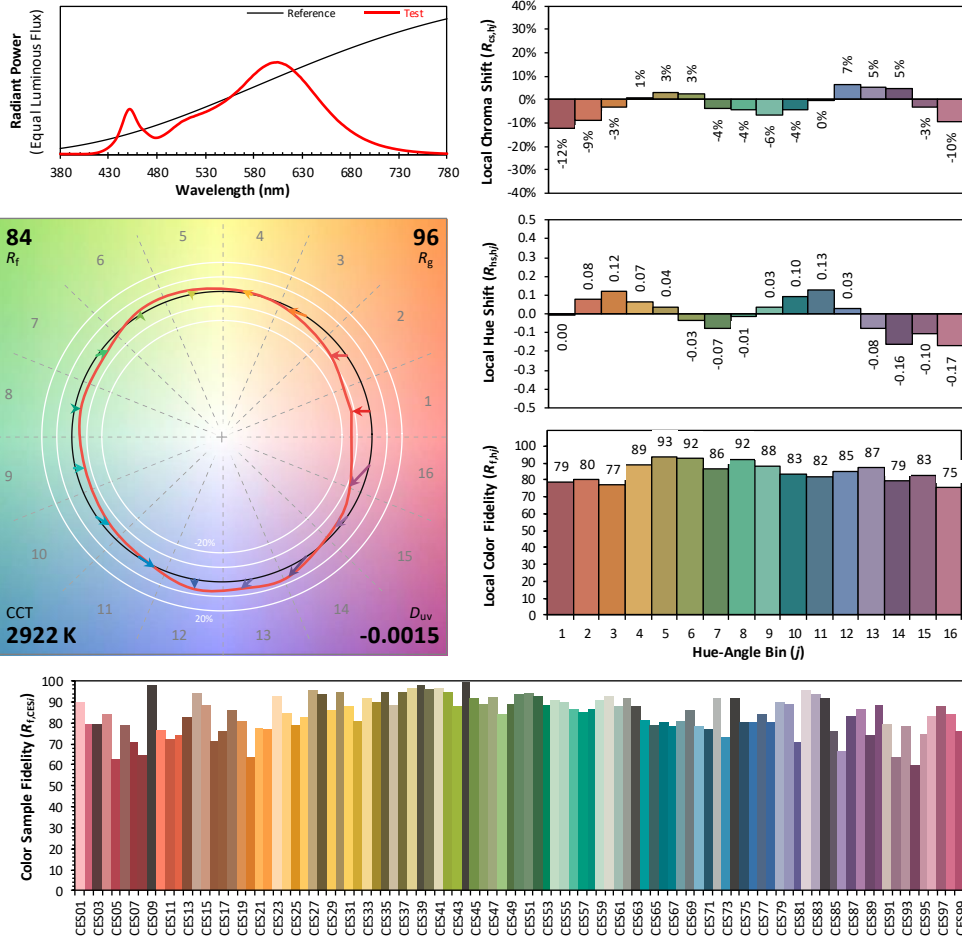
### IES TM-30-18 Color Rendition Report

Source: DLF2301106-9a

Manufacturer: RAB Lighting Inc.

Date: 2023/1/11

Model: ALEDMATY



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

$x$  0.4404  
 $y$  0.4015  
 $u'$  0.2539  
 $v'$  0.5209

CIE 13.3-1995  
(CRI)

$R_a$  82  
 $R_g$  3

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.	ALEDMATY	Sample ID.	I1
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  $\pm 0.2$  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	120.01	60	1.242	148.9	0.999
NON-WROST CASE	277.07	60	0.548	145.3	0.957

#### Test Result

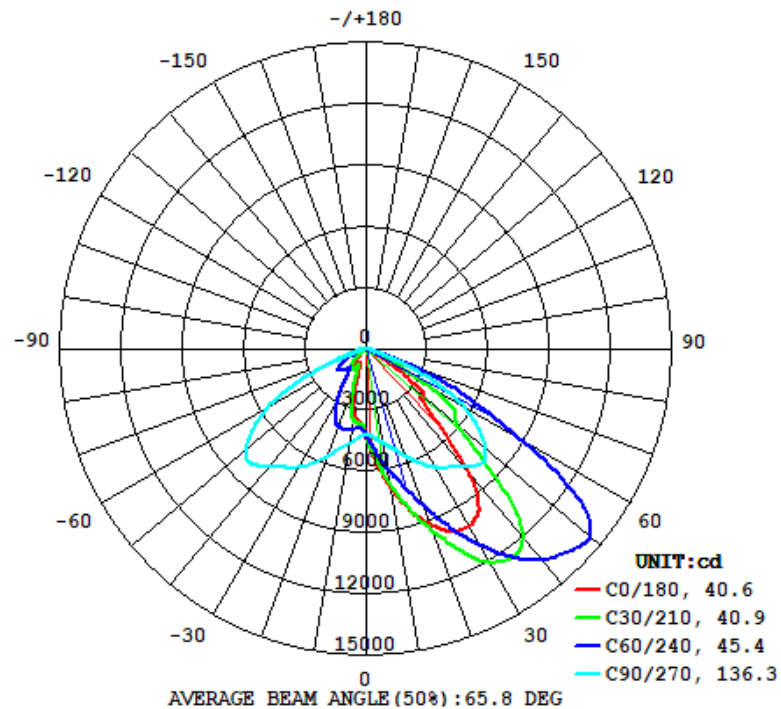
Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
	C0-180	C90-270	C0-180	C90-270	
19771	93.5	153.7	40.6	136.3	132.8

Zonal Lumen Requirement ( $0^{\circ}$ - $90^{\circ}$ )	Zonal Lumen Requirement ( $80^{\circ}$ - $90^{\circ}$ )	BUG rating
100.00%	0.16%	B3-U0-G2

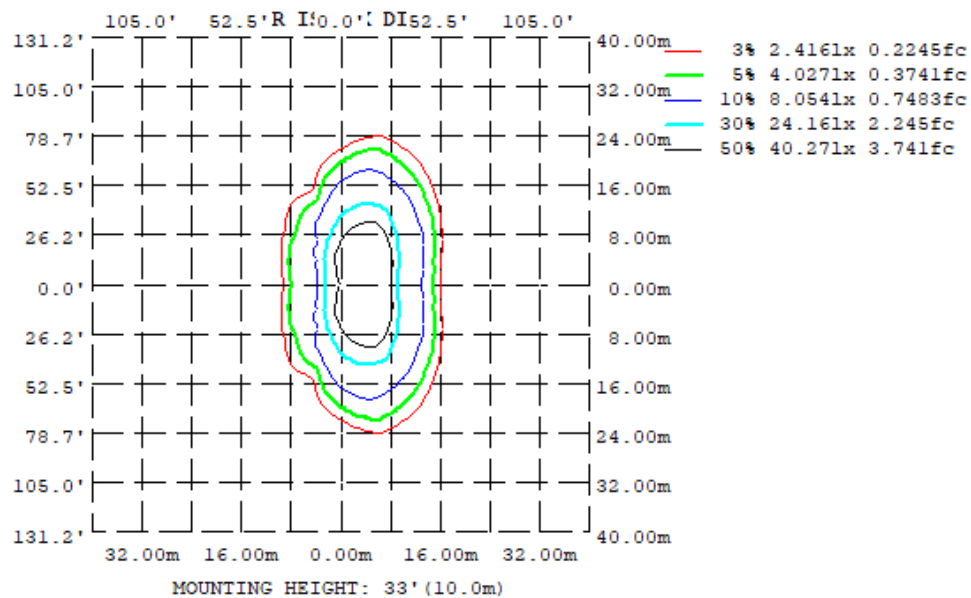


## 4.2 Goniophotometer Test

### Light Distrubtion Curve



### Isolux Plot





## 4.2 Goniophotometer Test

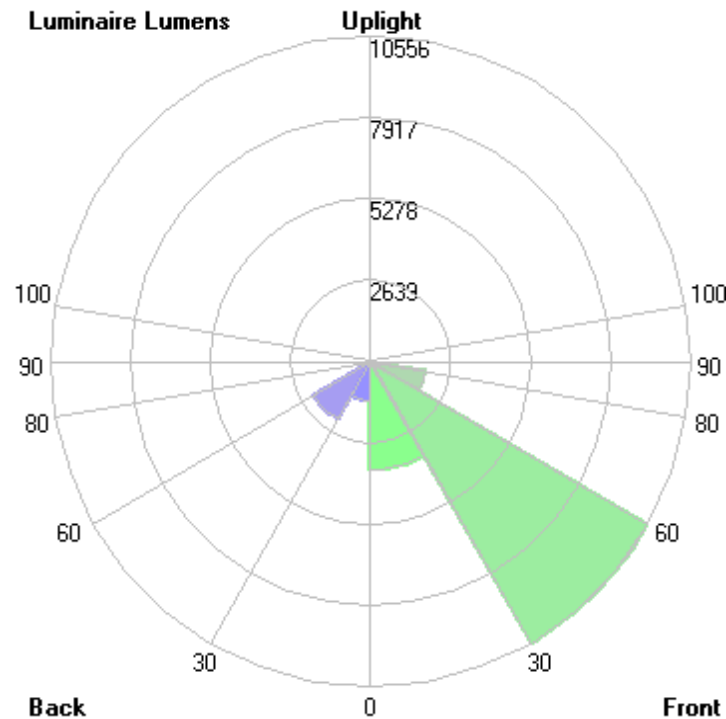
### Zonal Lumen Summary

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315
10	676.1	631.2	467.0	381.4	332.9	381.4	467.0	631.2
20	910.9	897.3	556.9	283.2	97.45	283.2	556.9	897.3
30	1004	1228	671.4	107.0	104.9	107.0	671.4	1228
40	775.8	1409	753.0	144.1	74.89	144.1	753.0	1409
50	367.1	1040	769.6	109.2	22.76	109.2	769.6	1040
60	90.89	565.1	544.4	36.60	3.379	36.60	544.4	565.1
70	13.37	82.61	145.9	5.011	1.950	5.011	145.9	82.61
80	2.421	8.015	20.58	1.700	0.7707	1.700	20.58	8.015
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	442.56	0 - 10	442.56	2.24%
10-20	1521.2	0 - 20	1963.76	9.93%
20-30	2832.67	0 - 30	4796.43	24.26%
30-40	4247.27	0 - 40	9043.70	45.74%
40-50	4631.37	0 - 50	13675.07	69.17%
50-60	3833.51	0 - 60	17508.58	88.56%
60-70	1876.91	0 - 70	19385.49	98.05%
70-80	354.29	0 - 80	19739.78	99.84%
80-90	31.37	0 - 90	19771.15	100.00%
90-100	0.00	0 - 100	19771.15	100.00%
100-110	0.00	0 - 110	19771.15	100.00%
110-120	0.00	0 - 120	19771.15	100.00%
120-130	0.00	0 - 130	19771.15	100.00%
130-140	0.00	0 - 140	19771.15	100.00%
140-150	0.00	0 - 150	19771.15	100.00%
150-160	0.00	0 - 160	19771.15	100.00%
160-170	0.00	0 - 170	19771.15	100.00%
170-180	0.00	0 - 180	19771.15	100.00%

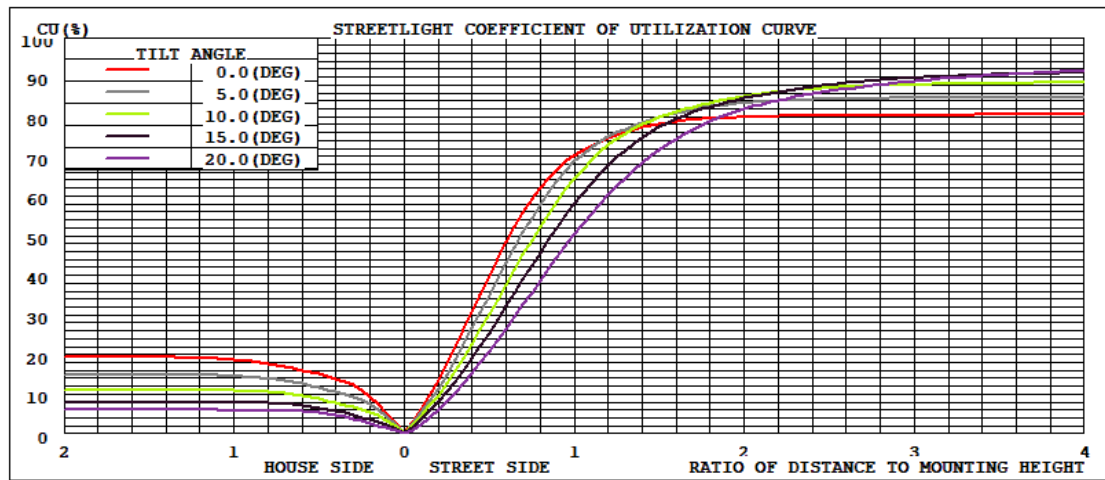
## 4.2 Goniophotometer Test

LCS/BUG

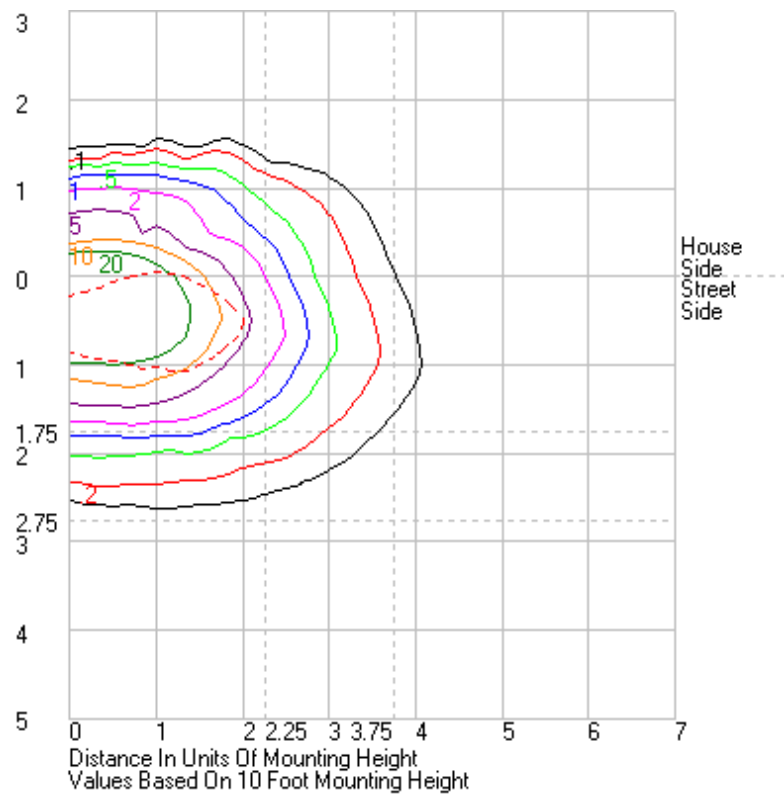


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	3509.9	N.A.	17.8
FM - Front-Medium (30-60)	10556.0	N.A.	53.4
FH - Front-High (60-80)	1832.5	N.A.	9.3
FVH - Front-Very High (80-90)	24.0	N.A.	0.1
BL - Back-Low (0-30)	1286.6	N.A.	6.5
BM - Back-Medium (30-60)	2156.1	N.A.	10.9
BH - Back-High (60-80)	398.7	N.A.	2.0
BVH - Back-Very High (80-90)	7.4	N.A.	0.0
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>19771.2</b>	<b>N.A.</b>	<b>100.0</b>
<b>BUG Rating</b>	<b>B3-U0-G2</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	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84	4186.84
1	4385.27	4387.43	4364.61	4332.1	4290.74	4243.76	4196.46	4147.83	4103.15	4063.23	4034.87	4015.01	4002.62	4015.01	4034.87	4063.23	4103.15	4147.83	4196.46	4243.76	4290.74	4332.1	4364.61	4387.43	4385.27
2	4619.04	4610.88	4573.23	4502.81	4417.14	4318.81	4219.34	4122.02	4034.7	3960.83	3904.2	3873.36	3858.55	3873.36	3904.2	3960.83	4034.7	4122.02	4219.34	4318.81	4417.14	4502.81	4573.23	4610.88	4619.04
3	4888.5	4876.19	4808.67	4701.14	4562.63	4405.36	4253.99	4111.67	3980.19	3873.04	3800.62	3759.11	3745.86	3759.11	3800.62	3873.04	3980.19	4111.67	4253.99	4405.36	4562.63	4701.14	4808.67	4876.19	4888.5
4	5140.81	5128.67	5045.77	4906.26	4725.21	4511.52	4303.62	4111.53	3943.04	3818.25	3742.94	3703.62	3690.75	3703.62	3742.94	3818.25	3943.04	4111.53	4303.62	4511.52	4725.21	4906.26	5045.77	5128.67	5140.81
5	5419.51	5397.71	5296.34	5124.45	4897.32	4625.24	4360.37	4123.14	3924.26	3796.77	3720.63	3671.9	3656.8	3671.9	3720.63	3796.77	3924.26	4123.14	4360.37	4625.24	4897.32	5124.45	5296.34	5397.71	5419.51
6	5699.81	5677.38	5560.77	5353.81	5080.85	4745.65	4422.14	4140.09	3923.33	3796.81	3705.75	3637.77	3616.13	3637.77	3705.75	3796.81	3923.33	4140.09	4422.14	4745.65	5080.85	5353.81	5560.77	5677.38	5699.81
7	5961.55	5936.62	5821.77	5592.51	5269.07	4874.82	4487.3	4161.86	3938.63	3806.69	3689.77	3606.07	3576.27	3606.07	3689.77	3806.69	3938.63	4161.86	4487.3	4874.82	5269.07	5592.51	5821.77	5936.62	5961.55
8	6241.44	6219.08	6091.84	5837.04	5457.92	4998.5	4549.99	4189.18	3964.27	3812.46	3670.41	3562.12	3520.82	3562.12	3670.41	3812.46	3964.27	4189.18	4549.99	4998.5	5457.92	5837.04	6091.84	6219.08	6241.44
9	6494.92	6477.22	6356.63	6068.94	5649.22	5120.9	4610.15	4212.36	3991.89	3815.14	3642.47	3497.07	3438.49	3497.07	3642.47	3815.14	3991.89	4212.36	4610.15	5120.9	5649.22	6068.94	6356.63	6477.22	6494.92
10	6760.77	6745.1	6627.25	6311.9	5839.21	5244.58	4670.11	4238.93	4015.57	3814.02	3594.56	3404.57	3329.12	3404.57	3594.56	3814.02	4015.57	4238.93	4670.11	5244.58	5839.21	6311.9	6627.25	6745.1	6760.77
11	7031.11	7025.79	6903.7	6561.54	6029.73	5366.04	4733.49	4268.56	4035.17	3801.94	3522.55	3276.04	3176.37	3276.04	3522.55	3801.94	4035.17	4268.56	4733.49	5366.04	6029.73	6561.54	6903.7	7025.79	7031.11
12	7279.05	7283.36	7175.82	6803.47	6237.08	5497.31	4800.09	4306.02	4051.11	3776.48	3425.47	3127.77	3003.9	3127.77	3425.47	3776.48	4051.11	4306.02	4800.09	5497.31	6237.08	6803.47	7175.82	7283.36	7279.05
13	7560.88	7567.83	7460.16	7056.55	6449.58	5632.07	4873.42	4350.93	4066.5	3729.11	3295.65	2931.77	2785.42	2931.77	3295.65	3729.11	4066.5	4350.93	4873.42	5632.07	6449.58	7056.55	7460.16	7567.83	7560.88
14	7827.25	7847.81	7736.99	7307.19	6612.92	5775.17	4953.33	4402.22	4083.08	3660.51	3140.52	2697.62	2505.44	2697.62	3140.52	3660.51	4083.08	4402.22	4953.33	5775.17	6612.92	7307.19	7736.99	7847.81	7827.25
15	8068.64	8115.21	8021.15	7564.95	6827.2	5924.84	5037.42	4463.82	4097.09	3573.65	2956.48	2432.02	2225.86	2432.02	2956.48	3573.65	4097.09	4463.82	5037.42	5924.84	6827.2	7564.95	8021.15	8115.21	8068.64
16	8312.13	8378.96	8316.87	7826.75	7056.81	6084.36	5133.01	4529.13	4109.37	3462.49	2725.49	2124.59	1897.73	2124.59	2725.49	3462.49	4109.37	4529.13	5133.01	6084.36	7056.81	7826.75	8316.87	8378.96	8312.13
17	8522.6	8614.21	8595.18	8095.78	7297.77	6262.17	5233.63	4603.56	4113.81	3340.91	2481.23	1834.5	1623.17	1834.5	2481.23	3340.91	4113.81	4603.56	5233.63	6262.17	7297.77	8095.78	8595.18	8614.21	8522.6
18	8734.15	8862.82	8870.13	8382.2	7552.49	6445.77	5340.18	4682.08	4106.45	3191.9	2213.86	1558.37	1381.69	1558.37	2213.86	3191.9	4106.45	4682.08	5340.18	6445.77	7552.49	8382.2	8870.13	8862.82	8734.15
19	8928.02	9090.69	9135.29	8675.04	7815.22	6641.27	5450.46	4764.73	4088.19	3019.26	1943.32	1332.01	1142.29	1332.01	1943.32	3019.26	4088.19	4764.73	5450.46	6641.27	7815.22	8675.04	9135.29	9090.69	8928.02
20	9108.65	9309.59	9404.69	8972.77	8091.98	6848.13	5669.2	4847.1	4055.84	2831.64	1697.17	1124.29	974.51	1124.29	1697.17	2831.64	4055.84	4847.1	5669.2	6848.13	8091.98	8972.77	9404.69	9309.59	9108.65
21	9305.16	9545.91	9677.18	9278.52	8374.99	7054.8	5692.34	4928.63	4008.69	2618.8	1467.68	954.83	840.09	954.83	1467.68	2618.8	4008.69	4928.63	5692.34	7054.8	8374.99	9278.52	9677.18	9545.91	9305.16
22	9462.17	9758.27	9955.07	9575.37	8660.54	7267.04	5812.75	5005.71	3944.18	2407.01	1272.68	841.73	762.44	841.73	1272.68	2407.01	3944.18	5005.71	5812.75	7267.04	8660.54	9575.37	9955.07	9758.27	9462.17
23	9621.28	9972.24	10250.5	9895.89	8957.77	7482.22	5936.69	5078.75	3860.43	2186.4	1105.06	770.81	732.58	770.81	1105.06	2186.4	3860.43	5078.75	5936.69	7482.22	8957.77	9895.89	10250.5	9972.24	9621.28
24	9764.04	10183.5	10548.6	10207.4	9255.28	7694.05	6057.16	5141.65	3762.22	1973.25	972.23	749.37	747.93	749.37	972.23	1973.25	3762.22	5141.65	6057.16	7694.05	9255.28	10207.4	10548.6	10183.5	9764.04
25	9879.35	10376.3	10843.2	10548.6	9545.88	7903.39	6176.34	5199.11	3640.7	1775.41	884.89	770.45	790.27	770.45	884.89	1775.41	5199.11	6176.34	7903.39	9545.88	10548.6	10843.2	10376.3	9879.35	
26	9972	10558.4	11140.6	10884.6	9843.59	8113.14	6293.38	5246.33	3503.45	1585.06	839.23	823.08	855.09	823.08	839.23	1585.06	3503.45	5246.33	6293.38	8113.14	9843.59	10884.6	11140.6	10558.4	9972
27	9996.29	10675	11421.6	11232.6	10131.2	8317.9	6405.23	5281.03	3351.3	1420.38	837.76	892.8	925.93	892.8	837.76	1420.38	3351.3	5281.03	6405.23	8317.9	10131.2	11232.6	11421.6	10675	9996.29
28	10021.7	10744.4	11688.2	11588.1	10423.4	8517.72	6514.24	5306.41	3178.69	1273.15	876.34	966.02	982.45	966.02	876.34	1273.15	3178.69	5306.41	6514.24	8517.72	10423.4	11588.1	11688.2	10744.4	10021.7
29	10031.3	10810.1	11902	11934.7	10710.9	8711.38	6615.94	5318.26	3002.18	1149.93	943.14	1030.83	1025.69	1030.83	943.14	1149.93	3002.18	5318.26	6615.94	8711.38	10710.9	11934.7	11902	10810.1	10031.3
30	10036.4	10853.7	12073.6	12279	11001.7	8909.61	6713.84	5315.57	2805.85	1070.26	1026.17	1074.7	1049.49	1074.7	1026.17	1070.26	2805.85	5315.57	6713.84	8909.61	11001.7	12279	12073.6	10853.7	10036.4
31	10036.7	10882	12193.1	12611.7	11296.3	9095.93	6804.27	5295.98	2610.08	1025.66	1108.71	1103.23	1059.49	1103.23	1108.71	1025.66	2610.08	5295.98	6804.27	9095.93	11296.3	12611.7	12193.1	10882	10036.7
32	10002.4	10895.9	12297	12911.5	11587.3	9281.98	6885.44	5259.28	2410.98	1021.74	1178.84	1116.92	1051.37	1116.92	1178.84	1021.74	2410.98	5259.28	6885.44	9281.98	11587.3	12911.5	12297	10895.9	10002.4
33	9908.29	10864.4	12380.4	13193.3	11883	9457.48	6963.79	5208.55	2213.75	1054.43	1229.65	1115.16	1030.01	1115.16	1229.65	1054.43	2213.75	5208.55	6963.79	9457.48	11883	13193.3	12380.4	10864.4	9908.29
34	9820.09	10791.7	12441.5	13417	12160.3	9623.43	7036.8	5140.48	2024.99	1112.28	1262.85	1098.6	1001.05	1098.6	1262.85	1112.28	2024.99	5140.48	7036.8	9623.43	12160.3	13417	12441.5	10791.7	9820.09
35	9709.96	10718.1	12464.1	13605.5	12430.9	9786.01	7106.79	5056.84	1849.73	1185.21	1280.22	1076.23	963.79	1076.23	1280.22	1185.21	1849.73	5056.84	7106.79	9786.01	12430.9	13605.5	12464.1	10718.1	9709.96
36	9468.06	10579.8	12459.1	13773.7	12687	9944.96	7179.59	4960.77	1686.17	1263.48	1279.97	1043.12	919.69	1043.12	1279.97	1263.48	1686.17	4960.77	7179.59	9944.96	12687	13773.7	12459.1	10579.8	9468.06
37	9177.57	10356.8	12428.1	13904	12914.7	10100.2	7255.46	4851.01	1547.28	1332.14	1272.57	1005.5	873.88	1005.5	1272.57	1332.14	1547.28	4851.01	7255.46	10100.2	12914.7	13904	12428.1	10356.8	9177.57
38	8829.41	10072.5	12350.4	13999.6	13138.5	10249.4	7338.34	4736.91	1429.61	1384.29	1261.82	966.67	833.29	966.67	1261.82	1384.29	1429.61	4736.9							

51	3688.87	4032.49	5747.59	9581.21	14204.7	11585.9	7543.45	2698.3	1742.96	1033.73	634.57	276.23	170.35	276.23	634.57	1033.73	1742.96	2698.3	7543.45	11585.9	14204.7	9581.21	5747.59	4032.49	3688.87
52	3590.5	4038.26	5573.95	8868.19	13981.2	11446.6	7365.96	2493.62	1749.59	982.41	569.87	201.81	113.58	201.81	569.87	982.41	1749.59	2493.62	7365.96	11446.6	13981.2	8868.19	5573.95	4038.26	3590.5
53	3388.28	3943.7	5507.45	8235.25	13700.7	11269.7	7181.47	2307.89	1738.69	939.75	477.1	144.23	80.55	144.23	477.1	939.75	1738.69	2307.89	7181.47	11269.7	8235.25	5507.45	3943.7	3388.28	
54	3011.33	3675.01	5468.54	7672.61	13225.2	11061.3	6971.36	2129.22	1708.37	898.57	367.84	92.9	62.21	92.9	367.84	898.57	1708.37	2129.22	6971.36	11061.3	13225.2	7672.61	5468.54	3675.01	3011.33
55	2692.45	3292.08	5376.13	7279.08	12650.5	10815.3	6746.95	1964.63	1656.53	857.13	266.74	70.44	52.22	70.44	266.74	857.13	1656.53	1964.63	6746.95	10815.3	12650.5	7279.08	5376.13	3292.08	2692.45
56	2368.51	2940.33	5149.91	6930.04	11968.4	10535.2	6527.79	1819.19	1587.72	802.23	185.55	60.45	46.01	60.45	185.55	802.23	1587.72	1819.19	6527.79	10535.2	11968.4	6930.04	5149.91	2940.33	2368.51
57	1955.78	2535.23	4773.51	6651.05	11171	10276.6	6310.61	1693.83	1512.37	724.32	126.25	52.85	41.51	52.85	126.25	724.32	1512.37	1693.83	6310.61	10276.6	11171	6651.05	4773.51	2535.23	1955.78
58	1560.99	2119.97	4317.46	6390.87	10338.3	9986.86	6056.74	1595.76	1429.28	613.26	89.5	47.34	38.11	47.34	89.5	613.26	1429.28	1595.76	6056.74	9986.86	10338.3	6390.87	4317.46	2119.97	1560.99
59	1163.99	1672.22	3783.61	6065.72	9428.08	9688.08	5766.03	1524.55	1345.76	490.85	73.99	43.47	35.78	43.47	73.99	490.85	1345.76	1524.55	5766.03	9688.08	9428.08	6065.72	3783.61	1672.22	1163.99
60	908.92	1232.01	3259.39	5651	8603.99	9358.12	5444.42	1484.06	1270.59	365.99	65.56	41.21	33.79	41.21	65.56	365.99	1270.59	1484.06	5444.42	9358.12	8603.99	5651	3259.39	1232.01	908.92
61	774.69	972.12	2679.26	5176.9	7815.37	9019.82	5077.06	1459.69	1201.32	250.66	59.93	39.24	32.16	39.24	59.93	250.66	1201.32	1459.69	5077.06	9019.82	7815.37	5176.9	2679.26	972.12	774.69
62	683.14	809.08	2117.14	4678.31	7120.94	8635.6	4689.33	1432.6	1136.7	177.85	55.43	37.23	31.07	37.23	55.43	177.85	1136.7	1432.6	4689.33	8635.6	7120.94	4678.31	2117.14	809.08	683.14
63	613.87	726.49	1564.34	4127.41	6507.95	8175.37	4273.26	1401.97	1059.58	122.78	52.26	35.89	30.58	35.89	52.26	122.78	1059.58	1401.97	4273.26	8175.37	6507.95	4127.41	1564.34	726.49	613.87
64	538.32	658.36	1123.78	3502.34	5907.42	7623.62	3843.82	1366.73	955.89	89.23	49.1	34.8	29.64	34.8	49.1	89.23	955.89	1366.73	3843.82	7623.62	5907.42	3502.34	1123.78	658.36	538.32
65	458.44	584.99	858.67	2932.24	5351.21	6984.69	3431.98	1311.19	819.53	76.17	46.38	33.56	28.37	33.56	46.38	76.17	819.53	1311.19	3431.98	6984.69	5351.21	2932.24	858.67	584.99	458.44
66	381.11	507.19	715.62	2422.67	4799.28	6254.37	2999.54	1245.08	659.84	67.78	43.77	31.89	26.76	31.89	43.77	67.78	659.84	1245.08	2999.54	6254.37	4799.28	2422.67	715.62	507.19	381.11
67	293.17	419.15	635.69	1877.26	4222.66	5479.46	2587.65	1166.61	491.05	62.47	41.57	29.78	24.78	29.78	41.57	62.47	491.05	1166.61	2587.65	5479.46	4222.66	1877.26	635.69	419.15	293.17
68	218.59	326.81	575.93	1399.04	3589.39	4726.82	2159.22	1076.43	327.05	57.81	39.63	27.72	22.77	27.72	39.63	57.81	327.05	1076.43	2159.22	4726.82	3589.39	1399.04	575.93	326.81	218.59
69	170.7	251.44	493.51	1049.93	2953.12	3944.76	1782.09	972.61	212.96	53.87	37.65	25.58	21.01	25.58	37.65	53.87	212.96	972.61	1782.09	3944.76	2953.12	1049.93	493.51	251.44	170.7
70	133.74	199.77	410.64	826.1	2381.15	3211.47	1459.49	862.56	151.45	50.11	35.34	23.45	19.5	23.45	35.34	50.11	151.45	862.56	1459.49	3211.47	2381.15	826.1	410.64	199.77	133.74
71	105.94	158.51	333.32	670.39	1854.99	2580.38	1214.41	751.82	102.57	45.84	32.76	21.71	18.26	21.71	32.76	45.84	102.57	751.82	1214.41	2580.38	1854.99	670.39	333.32	158.51	105.94
72	83.64	120.98	266.39	588.29	1407.19	2100.93	1016.8	640.1	84.31	41.93	30.1	20.14	17.1	20.14	30.1	41.93	84.31	640.1	1016.8	2100.93	1407.19	588.29	266.39	120.98	83.64
73	66.9	95.4	207.62	501.51	1104.04	1698.81	845.31	532.44	72.16	38.69	27.68	18.66	15.88	18.66	27.68	38.69	72.16	532.44	845.31	1698.81	1104.04	501.51	207.62	95.4	66.9
74	57.72	77.74	153.15	406.28	889.35	1377.72	706.77	435.48	63.65	35.49	25.3	17.07	14.54	17.07	25.3	35.49	63.65	435.48	706.77	1377.72	889.35	406.28	153.15	77.74	57.72
75	48.6	64.25	118.88	321.25	724.6	1122.6	599.63	336.24	56.3	32.43	22.87	15.35	13.18	15.35	22.87	32.43	56.3	336.24	599.63	1122.6	724.6	321.25	118.88	64.25	48.6
76	41.34	56.09	95.34	245.19	575.05	919.27	503.77	245.03	49.09	29.55	20.29	13.84	11.83	13.84	20.29	29.55	49.09	245.03	503.77	919.27	575.05	245.19	95.34	56.09	41.34
77	36.19	49.37	78.21	172.81	463.31	737.29	406.97	174.51	42.71	26.95	17.65	12.33	10.73	12.33	17.65	26.95	42.71	174.51	406.97	737.29	463.31	172.81	78.21	49.37	36.19
78	31.44	42.83	67.16	128.14	368.47	576.81	324.23	115.94	36.94	23.82	15.44	11.01	9.67	11.01	15.44	23.82	36.94	115.94	324.23	576.81	368.47	128.14	67.16	42.83	31.44
79	27.67	37.64	58.45	99.75	283.08	447.16	260.42	87.04	31.72	20.16	13.32	9.86	8.7	9.86	13.32	20.16	31.72	87.04	260.42	447.16	283.08	99.75	58.45	37.64	27.67
80	24.21	32.63	50.93	80.15	195.51	343.15	205.79	69.57	26.93	17	11.43	8.57	7.71	8.57	11.43	17	26.93	69.57	205.79	343.15	195.51	80.15	50.93	32.63	24.21
81	21.38	28.52	43.73	67.18	137.25	242.62	162.26	56.49	22.68	14.08	9.71	7.42	6.6	7.42	9.71	14.08	22.68	56.49	162.26	242.62	137.25	67.18	43.73	28.52	21.38
82	19.05	24.89	37.15	56.72	100.5	168.48	121.99	44.89	18.5	11.56	7.98	6.1	5.52	6.1	7.98	11.56	18.5	44.89	121.99	168.48	100.5	56.72	37.15	24.89	19.05
83	17.1	21.64	31.69	47.99	77.85	119.57	88.32	34.02	14.61	9.44	6.48	4.9	4.38	4.9	6.48	9.44	14.61	34.02	88.32	119.57	77.85	47.99	31.69	21.64	17.1
84	15.66	19.02	26.87	40.15	61.33	84.79	61.5	25.59	11.4	7.47	4.99	3.57	3.23	3.57	4.99	7.47	11.4	25.59	61.5	84.79	61.33	40.15	26.87	19.02	15.66
85	14.08	16.05	22.07	32.73	48.86	61.63	44.85	18.66	8.83	5.5	3.56	2.5	2.1	2.5	3.56	5.5	8.83	18.66	44.85	61.63	48.86	32.73	22.07	16.05	14.08
86	11.8	13	17.26	25.22	36.47	44.74	31.32	12.36	6.38	3.77	2.21	1.41	1.12	1.41	2.21	3.77	6.38	12.36	31.32	44.74	36.47	25.22	17.26	13	11.8
87	8.59	9.26	11.67	16.91	24.07	29.56	17.79	7.73	4.14	2.13	1	0.38	0.12	0.38	1	2.13	4.14	7.73	17.79	29.56	24.07	16.91	11.67	9.26	8.59
88	5.1	5.04	6.33	8.95	12.62	14.44	8.14	3.87	2.08	0.92	0.28	0.14	0.09	0.14	0.28	0.92	2.08	3.87	8.14	14.44	12.62	8.95	6.33	5.04	5.1
89	2.1	2.05	2.69	3.32	4.73	5.17	3.21	2.21	0.87	0.43	0.23	0.16	0.1	0.16	0.23	0.43	0.87	2.21	3.21	5.17	4.73	3.32	2.69	2.05	2.1
90	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
91	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
92	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
93	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
94	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
95	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
96	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
97	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
98	0	0	0	0	0																				

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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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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



## 4.0 LM-79 Measurement and Test Results

### 4.3 THD and PF Test

Model No.	ALEDMATY	Sample ID.	I1
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
119.98	60	1.246	149.4	0.999	3.37%
277.02	60	0.551	146.0	0.957	8.05%

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