



Photometric Test Report

Relevant Standards

- ☒ IES LM-79-2019
- ☒ ANSI C82.77-10:2014

Prepared For

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Project Number

DLF2503101

Report Number

DLF2503101-6a

Test Date

2025/3/5

Issue Date

2025/3/5

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The results contained in this report pertain only to the tested sample.

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1.0 Test Summary

DLC Technical Requirements v5.1

Outdoor - Non-Cutoff and Semi-Cutoff Wall-Mounted Area Luminaires				
Requirement Category	Test Method	Requirements		Test value
Luminaire Output (lm) (Goniophotometer - Section 4.2 (0°-180° zones)	IES LM-79-2019	300		1393
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2) (0°-180° zones)	IES LM-79-2019	Standard 105	Premium 120	131.4
Luminaire Output (lm) (Goniophotometer - Section 4.2) (0°-90° zones)	IES LM-79-2019	300		866
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2) (0°-90° zones)	IES LM-79-2019	Standard 105	Premium 120	81.7
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2019	Worst Case		10.6
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77-10:2014	20.00%	120V	4.70%
		20.00%	277V	15.99%
Power Factor (THD & PF - section 4.3)	ANSI C82.77-10:2014	0.9	120V	0.996
		0.9	277V	0.914
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2019	7 step	5029±283	4929
		4 step	5029±220	
Minimum CRI (Integrating Sphere - Section 4.1)	IES LM-79-2019 CIE 13.3-1995	≥70		84
Minimum R9 (Integrating Sphere - Section 4.1)	IES LM-79-2019 CIE 13.3-1995	-		15
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
IES Rcs,h1 (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	-18%≤IES Rcs,h1≤+23%		-11%
Zonal Lumen Requirement (80°-90°) (Goniophotometer - Section 4.2)	IES LM-79-2019	≤10%		18.50%
Input Voltage (V)				
(Goniophotometer - Section 4.2)	IES LM-79-2019	Worst Case		277
(Goniophotometer - Section 4.2)		Non-Worst Case		120
Input Current (A)				
(Goniophotometer - Section 4.2)	IES LM-79-2019	Worst Case		0.042
(Goniophotometer - Section 4.2)		Non-Worst Case		0.085
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2019	Worst Case		10.6
(Goniophotometer - Section 4.2)		Non-Worst Case		10.1

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025/3/5	ET @ 11W/5000K	N/A	DLF2503101-F1
2	Goniophotometer Test	2025/3/5	ET @ 11W/5000K	N/A	DLF2503101-F1
3	THD and PF Test	2025/3/5	ET @ 11W/5000K	N/A	DLF2503101-F1

Remark(If any)

1. This report shall not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the US government.

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: ET @ 11W/5000K

Electrical Specification: 120V-277V,50/60HZ

Received Date: 2025/3/4

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	ET @ 11W/5000K	Sample ID.	DLF2503101-F1
Operate time (Min.)	90	Stabilization time (Min.)	45
Temperature (°C)	25.1	Humidity (%RH)	57.0

Test Method

The samples were tested according to the IES LM-79-2019.

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature and relative humidity condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ and 10% - 65% RH.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.

The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ± 0.2 percent under load.

The sample was measured using 4π geometry and operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Test Result

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.00	60	0.085	10.1	0.996
276.98	60	0.042	10.6	0.914

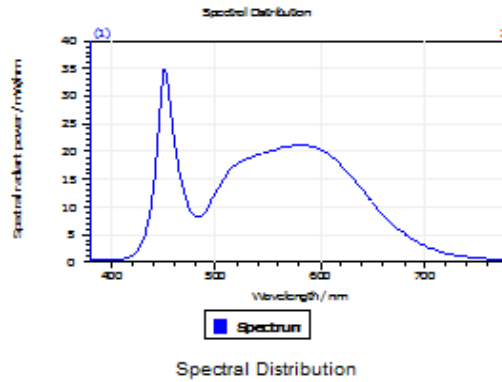
Test Result

CCT (K)	CRI	R9	Duv
4929	84	15	0.0026

Rf	Rg	IES Rcs,h1
84	96	-11%

4.1 Integrating Sphere Test

Results

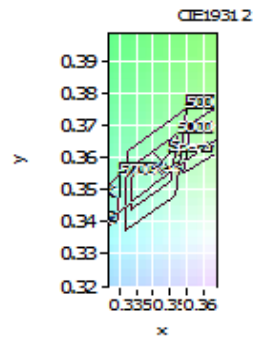


Spectral values

DominantWavelength 571.26 nm
Purity 0.121
PeakWavelength 451.22 nm
Radiant Power 4.242 W
Width50%:

Color Coordinates

Correlated Color Temperat 4929 K
x: 0.3477 u: 0.2104 u': 0.2104
y: 0.3590 v: 0.3258 v': 0.4886
CRI01 81.6 CRI09 14.7
CRI02 88.6 CRI10 72.4
CRI03 92.9 CRI11 80.9
CRI04 82.3 CRI12 55.6
CRI05 81.6 CRI13 83.5
CRI06 83.6 CRI14 96.3
CRI07 88.6 CRI15 76.3
CRI08 69.4 CRI16 73.4
ResultsCRI 83.6



PlanckDistance 2.6E-003

4.1 Integrating Sphere Test

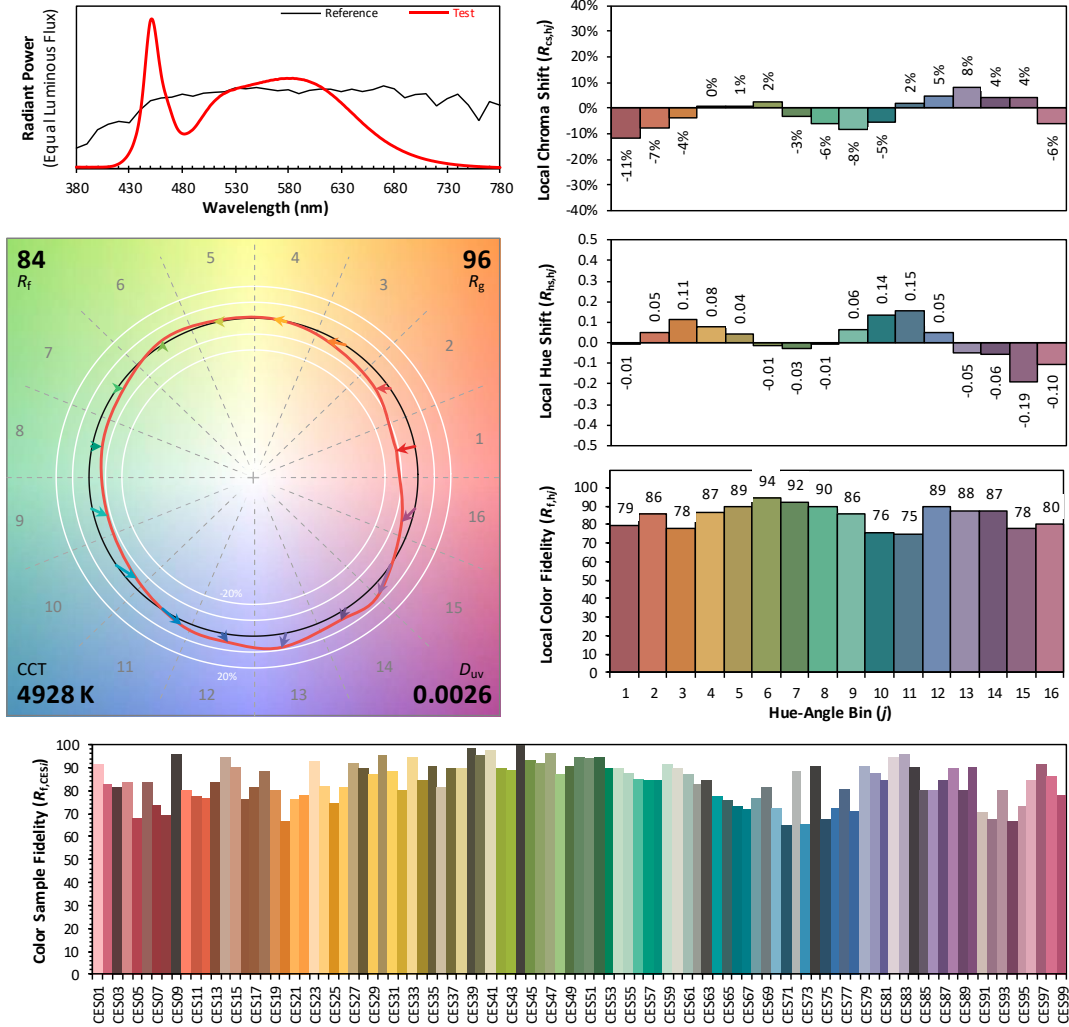
IES TM-30-18 Color Rendition Report

Source: DLF2503101-6a

Manufacturer: RAB Lighting Inc.

Date: 2025/3/5

Model: ET @ 11W/5000K



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

x 0.3477
 y 0.3590
 u' 0.2104
 v' 0.4886

CIE 13.3-1995
(CRI)

R_a 84
 R_g 21

4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength							
WL (nm)	Radiant (Watts/nm)	WL (nm)	Radiant (Watts/nm)	WL (nm)	Radiant (Watts/nm)	WL (nm)	Radiant (Watts/nm)
380	3.63E-04	485	8.32E-03	590	2.10E-02	695	3.38E-03
385	3.51E-04	490	9.18E-03	595	2.08E-02	700	2.93E-03
390	3.51E-04	495	1.07E-02	600	2.04E-02	705	2.52E-03
395	3.56E-04	500	1.25E-02	605	1.99E-02	710	2.17E-03
400	3.59E-04	505	1.43E-02	610	1.93E-02	715	1.87E-03
405	3.71E-04	510	1.58E-02	615	1.85E-02	720	1.62E-03
410	4.39E-04	515	1.69E-02	620	1.75E-02	725	1.39E-03
415	6.45E-04	520	1.77E-02	625	1.66E-02	730	1.20E-03
420	1.14E-03	525	1.83E-02	630	1.55E-02	735	1.03E-03
425	2.08E-03	530	1.86E-02	635	1.43E-02	740	8.85E-04
430	3.74E-03	535	1.90E-02	640	1.31E-02	745	7.63E-04
435	6.69E-03	540	1.93E-02	645	1.19E-02	750	6.59E-04
440	1.25E-02	545	1.96E-02	650	1.07E-02	755	5.68E-04
445	2.40E-02	550	1.99E-02	655	9.61E-03	760	4.87E-04
450	3.48E-02	555	2.02E-02	660	8.59E-03	765	4.24E-04
455	3.10E-02	560	2.05E-02	665	7.60E-03	770	3.66E-04
460	2.22E-02	565	2.08E-02	670	6.70E-03	775	3.18E-04
465	1.68E-02	570	2.09E-02	675	5.88E-03	780	2.77E-04
470	1.28E-02	575	2.11E-02	680	5.16E-03		
475	9.53E-03	580	2.11E-02	685	4.51E-03		
480	8.22E-03	585	2.12E-02	690	3.91E-03		

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	ET @ 11W/5000K	Sample ID.	DLF2503101-F1
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-79-2019.

Photometric paramters were measured using a type C goniophotometer and software.

The ambient temperature shall be maintained at 25° C ± 1.2° C and 10% - 65% RH, 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.

Airflow for the instantaneous tangential velocity of any point on the DUT shall be less than an upper tolerance limit of 0.20 m/s.

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	277.00	60	0.042	10.6	0.914
NON-WORST CASE	120.00	60	0.085	10.1	0.996

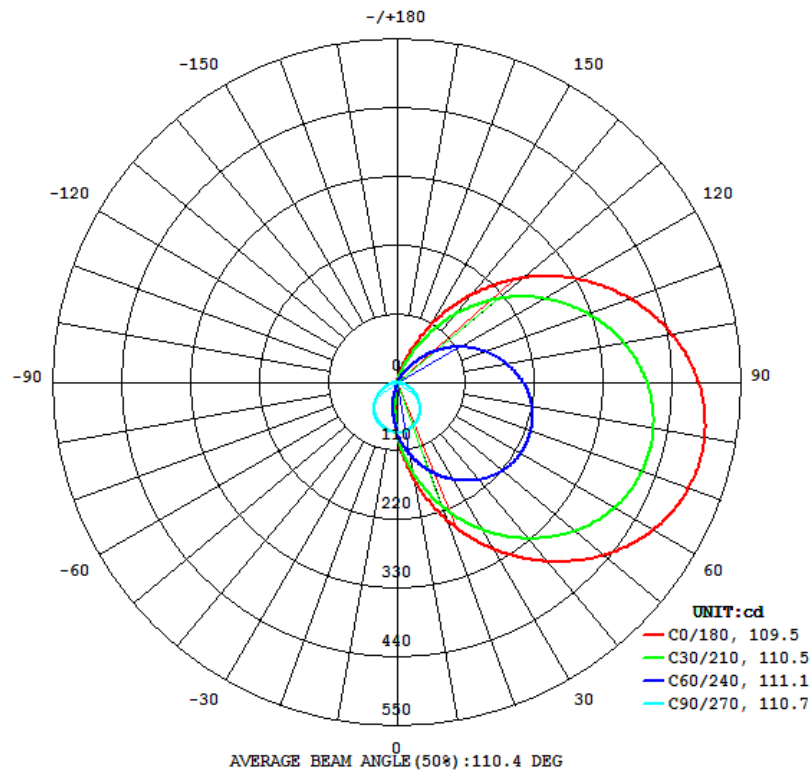
Test Result

Result type	Flux (lm)	Field Angle(10%)		Beam Angle(50%)		Luminous Efficacy (lm/W)
		C0-180	C90-270	C0-180	C90-270	
0°-180° zones	1393	162.4	161.7	109.5	110.7	131.4
0°-90° zones	866	94.2	161.7	67.6	110.7	81.7

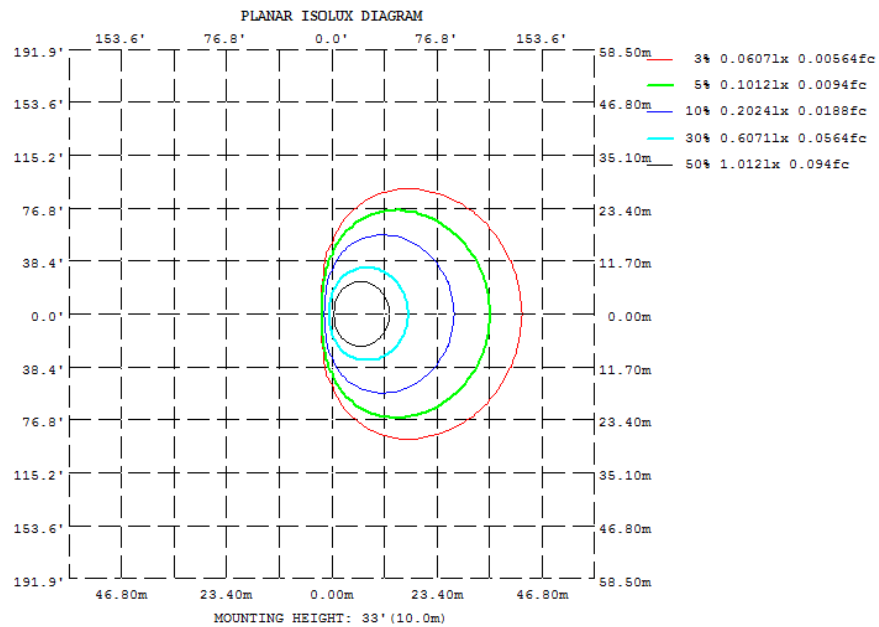
Zonal Lumen Requirement (80°-90°)	BUG rating
18.50%	B0-U3-G2

4.2 Goniophotometer Test

Light Distrubtion Curve



Isolux Plot



4.2 Goniophotometer Test

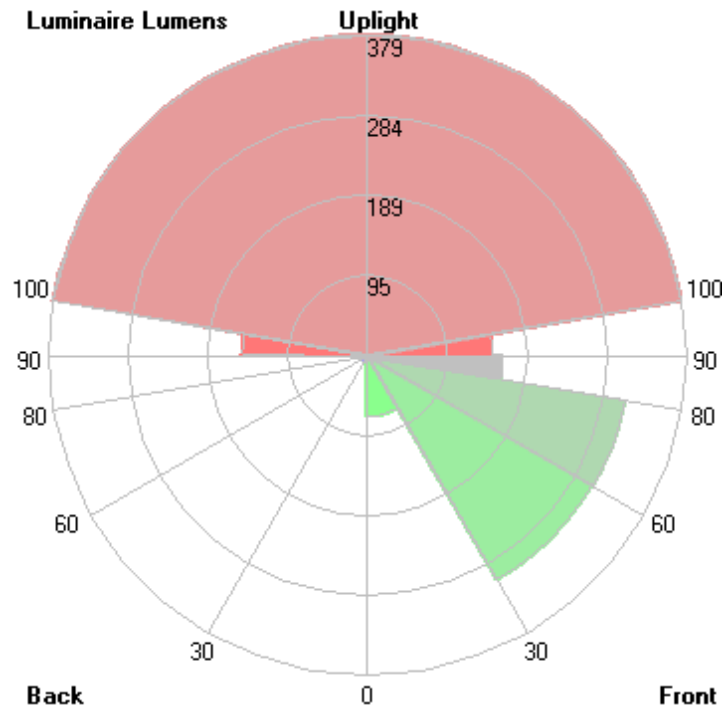
Zonal Lumen Summary

γ	C0	C45	C90	C135	C180	C225	C270	C315
10	156.5	132.9	79.33	31.51	14.07	31.51	79.33	132.9
20	234.1	184.7	75.06	0.2522	0.2953	0.2522	75.06	184.7
30	308.5	231.6	67.95	0.2161	0.2758	0.2161	67.95	231.6
40	374.3	271.4	58.36	0.2217	0.2704	0.2217	58.36	271.4
50	430.4	302.3	46.98	0.2842	0.3237	0.2842	46.98	302.3
60	471.4	322.6	34.42	0.2873	0.3719	0.2873	34.42	322.6
70	495.0	330.8	21.33	0.2799	0.3569	0.2799	21.33	330.8
80	498.8	326.5	9.037	0.2751	0.2926	0.2751	9.037	326.5
90	483.0	310.3	1.334	0.2863	0.3046	0.2863	1.334	310.3
100	446.5	283.1	0.1092	0.3166	0.3766	0.3166	0.1092	283.1
110	396.1	245.9	0.1167	0.3201	0.4286	0.3201	0.1167	245.9
120	333.4	201.3	0.1288	0.3144	0.4350	0.3144	0.1288	201.3
130	262.1	151.4	0.1527	0.3106	0.4170	0.3106	0.1527	151.4
140	185.5	98.97	0.1845	0.3053	0.3901	0.3053	0.1845	98.97
150	108.2	47.17	0.1980	0.2626	0.3076	0.2626	0.1980	47.17
160	37.47	3.199	0.2027	0.2046	0.1896	0.2046	0.2027	3.199
170	0.0776	0.1618	0.1779	0.1403	0.0927	0.1403	0.1779	0.1618
180	0.0990	0.1443	0.1536	0.1350	0.0983	0.1350	0.1536	0.1443
DEG	LUMINOUS INTENSITY:cd							

	Zonal (lm)		Total (lm)	Percent
0-10	7.76	0 - 10	7.76	0.56%
10-20	24.85	0 - 20	32.61	2.34%
20-30	48.13	0 - 30	80.74	5.79%
30-40	76.08	0 - 40	156.82	11.26%
40-50	105.08	0 - 50	261.90	18.80%
50-60	131.49	0 - 60	393.39	28.23%
60-70	151.11	0 - 70	544.50	39.08%
70-80	161.12	0 - 80	705.62	50.64%
80-90	160.15	0 - 90	865.77	62.14%
90-100	148.75	0 - 100	1014.52	72.81%
100-110	128.48	0 - 110	1143.00	82.04%
110-120	101.99	0 - 120	1244.99	89.36%
120-130	72.93	0 - 130	1317.92	94.59%
130-140	45.22	0 - 140	1363.14	97.84%
140-150	22.52	0 - 150	1385.66	99.45%
150-160	7.05	0 - 160	1392.71	99.96%
160-170	0.58	0 - 170	1393.29	100.00%
170-180	0.01	0 - 180	1393.30	100.00%

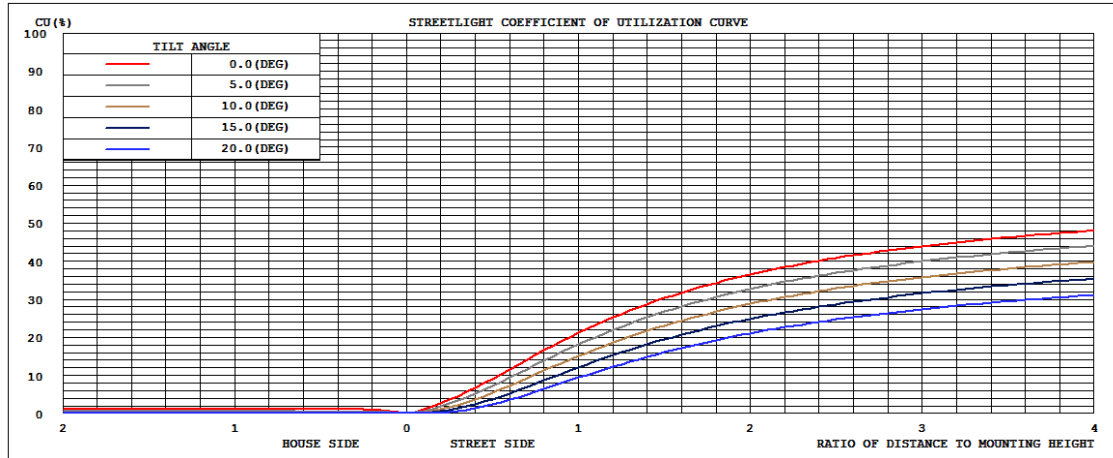
4.2 Goniophotometer Test

LCS/BUG

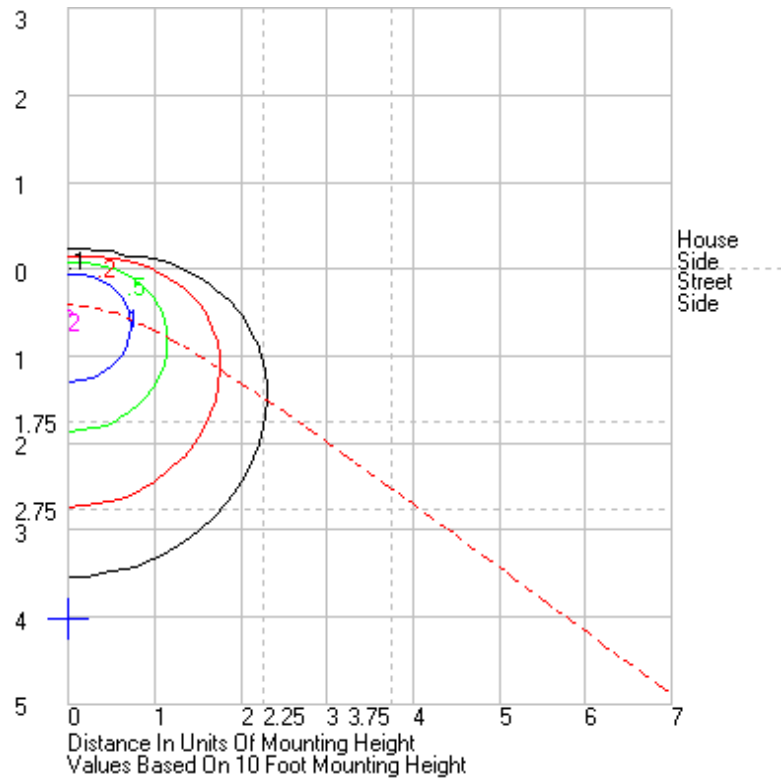


	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	72.5	N.A.	5.2
FM - Front-Medium (30-60)	306.9	N.A.	22.0
FH - Front-High (60-80)	310.2	N.A.	22.3
FVH - Front-Very High (80-90)	159.8	N.A.	11.5
BL - Back-Low (0-30)	8.2	N.A.	0.6
BM - Back-Medium (30-60)	5.7	N.A.	0.4
BH - Back-High (60-80)	2.1	N.A.	0.1
BVH - Back-Very High (80-90)	0.3	N.A.	0.0
UL - Uplight-Low (90-100)	148.8	N.A.	10.7
UH - Uplight-High (100-180)	378.8	N.A.	27.2
Total	1393.3	N.A.	100.0
BUG Rating	B0-U3-G2		

Coefficients of Utilization



Isolines



4.2 Goniophotometer Test

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360
0	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	80.386	
1	87.362	87.121	86.552	85.587	84.251	82.632	80.738	78.919	77.003	75.353	74.006	73.025	72.86	73.025	74.006	75.353	77.003	78.919	80.738	82.632	84.251	85.587	86.552	87.121	87.362
2	94.829	94.175	93.004	90.841	87.915	84.438	80.72	76.91	73.308	70.247	67.744	66.075	65.714	66.075	67.744	70.247	73.308	76.91	80.72	84.438	87.915	90.841	93.004	94.175	94.829
3	102.1	101.36	99.511	95.99	91.534	86.259	80.621	74.992	69.771	65.231	61.529	59.494	58.825	59.494	61.529	65.231	69.771	74.992	80.621	86.259	91.534	95.99	99.511	101.36	102.1
4	109.8	108.75	106.01	101.24	95.131	88.039	80.512	73.041	66.091	60.176	55.596	52.872	51.79	52.872	55.596	60.176	66.091	73.041	80.512	88.039	95.131	101.24	106.01	108.75	109.8
5	117.49	115.99	112.45	106.51	98.758	89.853	80.393	71.134	62.388	55.31	49.764	46.328	45.215	46.328	49.764	55.31	62.388	71.134	80.393	89.853	98.758	106.51	112.45	115.99	117.49
6	125.07	123.47	119.04	111.89	102.43	91.7	80.231	69.125	58.85	50.4	43.96	39.862	38.618	39.862	43.96	50.4	58.85	69.125	80.231	91.7	102.43	111.89	119.04	123.47	125.07
7	132.7	131.07	125.67	117.14	106.03	93.319	80.086	67.058	55.352	45.548	38.224	33.543	32.056	33.543	38.224	45.548	55.352	67.058	80.086	93.319	106.03	117.14	125.67	131.07	132.7
8	140.78	138.37	132.25	122.39	109.57	95.006	79.856	65.092	51.839	40.761	32.59	27.424	25.849	27.424	32.59	40.761	51.839	65.092	79.856	95.006	109.57	122.39	132.25	138.37	140.78
9	148.65	145.97	138.83	127.69	113.07	96.719	79.605	63.089	48.37	36.132	27.042	21.52	19.872	21.52	27.042	36.132	48.37	63.089	79.605	96.719	113.07	127.69	138.83	145.97	148.65
10	156.46	153.63	145.65	132.95	116.64	98.421	79.333	61.09	44.899	31.508	21.668	15.825	14.067	15.825	21.668	31.508	44.899	61.09	79.333	98.421	116.64	132.95	145.65	153.63	156.46
11	164.31	161.25	152.43	138.25	120.11	100.02	79.017	59.067	41.373	26.944	16.453	10.299	8.285	10.299	16.453	26.944	41.373	59.067	79.017	100.02	120.11	138.25	152.43	161.25	164.31
12	172.39	168.65	159.05	143.47	123.74	101.53	78.678	56.999	37.961	22.462	11.419	5.779	4.041	5.779	11.419	22.462	37.961	56.999	78.678	101.53	123.74	143.47	159.05	168.65	172.39
13	180.17	176.14	165.59	148.87	127.2	103.07	78.344	54.949	34.512	18.11	6.914	2.615	1.385	2.615	6.914	18.11	34.512	54.949	78.344	103.07	127.2	148.87	165.59	176.14	180.17
14	187.77	183.79	172.34	154.11	130.65	104.58	77.955	52.855	31.152	13.894	3.843	0.507	0.275	0.507	3.843	13.894	31.152	52.855	77.955	104.58	130.65	154.11	172.34	183.79	187.77
15	195.47	191.16	178.74	159.26	134.05	106.08	77.517	50.9	27.797	9.878	1.341	0.19	0.266	0.19	1.341	9.878	27.797	50.9	77.517	106.08	134.05	159.26	178.74	191.16	195.47
16	203.5	198.55	185.27	164.36	137.5	107.52	77.041	48.796	24.483	6.468	0.276	0.192	0.274	0.192	0.276	6.468	24.483	48.796	77.041	107.52	137.5	164.36	185.27	198.55	203.5
17	211.31	206.08	191.97	169.67	140.72	108.92	76.626	46.683	21.186	3.778	0.216	0.196	0.28	0.196	0.216	3.778	21.186	46.683	76.626	108.92	140.72	169.67	191.97	206.08	211.31
18	219.02	213.55	198.45	174.67	144.03	110.21	76.073	44.606	17.964	1.702	0.219	0.199	0.285	0.199	0.219	1.702	17.964	44.606	76.073	110.21	144.03	174.67	198.45	213.55	219.02
19	226.53	220.9	204.98	179.7	147.44	111.61	75.625	42.522	14.821	0.53	0.222	0.202	0.29	0.202	0.222	0.53	14.821	42.522	75.625	111.61	147.44	179.7	204.98	220.9	226.53
20	234.13	228.3	211.37	184.69	150.86	112.92	75.061	40.432	11.763	0.252	0.225	0.206	0.295	0.206	0.225	0.252	11.763	40.432	75.061	112.92	150.86	184.69	211.37	228.3	234.13
21	242.03	235.46	217.6	189.42	153.8	114.15	74.439	38.328	8.882	0.25	0.226	0.208	0.299	0.208	0.226	0.25	8.882	38.328	74.439	114.15	153.8	189.42	217.6	235.46	242.03
22	249.52	242.76	223.8	194.34	157.04	115.42	73.85	36.249	6.51	0.248	0.226	0.209	0.3	0.209	0.226	0.248	6.51	36.249	73.85	115.42	157.04	194.34	223.8	242.76	249.52
23	257.04	250.09	230.23	199.47	160.07	116.66	73.267	34.115	4.478	0.245	0.224	0.209	0.3	0.209	0.224	0.245	4.478	34.115	73.267	116.66	160.07	199.47	230.23	250.09	257.04
24	264.23	257.33	236.45	204.15	163.23	117.72	72.559	32.03	2.771	0.241	0.222	0.208	0.298	0.208	0.222	0.241	2.771	32.03	72.559	117.72	163.23	204.15	236.45	257.33	264.23
25	271.72	264.43	242.53	208.8	166.15	118.79	71.817	29.917	1.5	0.236	0.219	0.207	0.296	0.207	0.219	0.236	1.5	29.917	71.817	118.79	166.15	208.8	242.53	264.43	271.72
26	279.17	271.51	248.79	213.62	169.02	119.77	71.112	27.833	0.668	0.231	0.216	0.206	0.293	0.206	0.216	0.231	0.668	27.833	71.112	119.77	169.02	213.62	248.79	271.51	279.17
27	286.37	278.58	254.65	218.15	171.93	120.92	70.386	25.758	0.309	0.226	0.212	0.205	0.289	0.205	0.212	0.226	0.309	25.758	70.386	120.92	171.93	218.15	254.65	278.58	286.37
28	293.61	285.43	260.92	222.78	174.91	121.79	69.632	23.701	0.238	0.222	0.209	0.203	0.284	0.203	0.209	0.222	0.238	23.701	69.632	121.79	174.91	222.78	260.92	285.43	293.61
29	300.88	292.27	266.55	227.1	177.68	122.74	68.794	21.644	0.233	0.218	0.206	0.202	0.279	0.202	0.206	0.218	0.233	21.644	68.794	122.74	177.68	227.1	266.55	292.27	300.88
30	308.46	299.15	272.51	231.59	180.39	123.58	67.95	19.586	0.23	0.216	0.205	0.202	0.276	0.202	0.205	0.216	0.23	19.586	67.95	123.58	180.39	231.59	272.51	299.15	308.46
31	315.17	306.07	278.23	235.84	183.01	124.41	67.181	17.59	0.228	0.215	0.205	0.204	0.275	0.204	0.205	0.215	0.228	17.59	67.181	124.41	183.01	235.84	278.23	306.07	315.17
32	321.66	312.31	283.96	240.15	185.46	125.24	66.217	15.569	0.226	0.214	0.206	0.206	0.274	0.206	0.206	0.214	0.226	15.569	66.217	125.24	185.46	240.15	283.96	312.31	321.66
33	329.22	319.01	289.73	244.49	188.05	125.93	65.327	13.596	0.225	0.214	0.208	0.208	0.272	0.208	0.208	0.214	0.225	13.596	65.327	125.93	188.05	244.49	289.73	319.01	329.22
34	335.62	325.1	295.34	248.5	190.49	126.62	64.418	11.729	0.224	0.214	0.209	0.21	0.27	0.21	0.209	0.214	0.224	11.729	64.418	126.62	190.49	248.5	295.34	325.1	335.62
35	342.04	331.72	300.44	252.54	192.93	127.27	63.481	9.958	0.223	0.214	0.211	0.213	0.268	0.213	0.211	0.214	0.223	9.958	63.481	127.27	192.93	252.54	300.44	331.72	342.04
36	349.04	338.01	306	256.39	195.05	127.77	62.447	8.342	0.222	0.214	0.212	0.217	0.268	0.217	0.212	0.214	0.222	8.342	62.447	127.77	195.05	256.39	306	338.01	349.04
37	355.69	344.19	310.94	260.39	197.3	128.3	61.495	6.862	0.221	0.216	0.215	0.221	0.267	0.221	0.215	0.216	0.221	6.862	61.495	128.3	197.3	260.39	310.94	344.19	355.69
38	362.11	350.48	316.33	264.01	199.69	128.87	60.501	5.504	0.221	0.217	0.219	0.226	0.267	0.226	0.219	0.217	0.221	5.504	60.501	128.87	199.69	264.01	316.33	350.48	362.11
39	368.23	356.58	321.46	267.77	201.77	129.32	59.425	4.328	0.221	0.219	0.222	0.231	0.269	0.231	0.222	0.219	0.221	4.328	59.425	129.32	201.77	267.77	321.46	356.58	368.23
40	374.34	362.28	326.6	271.39	203.81	129.65	58.361	3.286	0.222	0.222	0.228	0.238	0.27	0.238	0.228	0.222	0.222	3.286	58.361	129.65	203.81	271.39	326.6	362.28	374.34
41	380.69	368.02	331	275.01	205.66	129.97	57.33	2.397	0.223	0.225	0.234	0.245	0.273	0.245	0.234	0.225	0.223	2.397	57.33	129.97	205.66	275.01	331	368.02	380.69
42	386.92	373.84	336.03	278.33	207.48	130.1	56.227	1.666	0.225	0.229	0.24	0.253	0.276	0.253	0.24	0.229	0.225	1.666	56.227	130.1	207.48	278.33	336.03	373.84	

50	430.35	414.5	369.91	302.29	219.7	130.64	46.979	0.227	0.258	0.284	0.314	0.337	0.324	0.337	0.314	0.284	0.258	0.227	46.979	130.64	219.7	302.29	369.91	414.5	430.35
51	435.35	419.21	373.89	305.29	221.06	130.64	45.76	0.228	0.26	0.289	0.32	0.344	0.33	0.344	0.32	0.289	0.26	0.228	45.76	130.64	221.06	305.29	373.89	419.21	435.35
52	440.08	423.52	377.32	307.46	222.19	130.3	44.536	0.228	0.262	0.293	0.326	0.349	0.337	0.349	0.326	0.293	0.262	0.228	44.536	130.3	222.19	307.46	377.32	423.52	440.08
53	444.62	428.05	380.87	309.8	223.16	130.07	43.312	0.228	0.263	0.296	0.33	0.355	0.342	0.355	0.33	0.296	0.263	0.228	43.312	130.07	223.16	309.8	380.87	428.05	444.62
54	449.23	431.66	384.04	311.94	224	129.85	42.063	0.227	0.263	0.297	0.333	0.359	0.346	0.359	0.333	0.297	0.263	0.227	42.063	129.85	224	311.94	384.04	431.66	449.23
55	453.08	435.74	387.21	313.99	224.91	129.32	40.796	0.225	0.262	0.297	0.334	0.36	0.351	0.36	0.334	0.297	0.262	0.225	40.796	129.32	224.91	313.99	387.21	435.74	453.08
56	457.65	439.56	390.25	315.66	225.68	129.12	39.535	0.222	0.26	0.295	0.334	0.361	0.356	0.361	0.334	0.295	0.26	0.222	39.535	129.12	225.68	315.66	390.25	439.56	457.65
57	461.65	443.2	392.81	317.55	226.37	128.61	38.262	0.219	0.258	0.294	0.333	0.361	0.36	0.361	0.333	0.294	0.258	0.219	38.262	128.61	226.37	317.55	392.81	443.2	461.65
58	465.19	446.86	395.67	319.54	227.07	128	37.011	0.216	0.255	0.292	0.332	0.361	0.364	0.361	0.332	0.292	0.255	0.216	37.011	128	227.07	319.54	395.67	446.86	465.19
59	468.54	449.76	398	321.08	227.61	127.51	35.685	0.214	0.253	0.29	0.33	0.361	0.368	0.361	0.33	0.29	0.253	0.214	35.685	127.51	227.61	321.08	398	449.76	468.54
60	471.45	453.26	400.55	322.64	227.97	127.02	34.422	0.21	0.25	0.287	0.328	0.361	0.372	0.361	0.328	0.287	0.25	0.21	34.422	127.02	227.97	322.64	400.55	453.26	471.45
61	474.9	455.75	403.04	323.93	228.17	126.29	33.096	0.207	0.247	0.285	0.327	0.361	0.376	0.361	0.327	0.285	0.247	0.207	33.096	126.29	228.17	323.93	403.04	455.75	474.9
62	478.76	459.27	405.19	325.28	228.47	125.52	31.792	0.205	0.245	0.283	0.326	0.361	0.379	0.361	0.326	0.283	0.245	0.205	31.792	125.52	228.47	325.28	405.19	459.27	478.76
63	480.69	461.73	407	326.37	228.52	124.84	30.501	0.202	0.242	0.281	0.323	0.36	0.381	0.36	0.323	0.281	0.242	0.202	30.501	124.84	228.52	326.37	407	461.73	480.69
64	483.34	464.14	408.84	327.7	228.86	124.13	29.188	0.2	0.241	0.28	0.321	0.359	0.382	0.359	0.321	0.28	0.241	0.2	29.188	124.13	228.86	327.7	408.84	464.14	483.34
65	485.65	466.12	410.59	328.25	228.77	123.23	27.862	0.197	0.24	0.28	0.319	0.357	0.382	0.357	0.319	0.28	0.24	0.197	27.862	123.23	228.77	328.25	410.59	466.12	485.65
66	487.97	468.5	412.19	329.16	228.57	122.33	26.523	0.196	0.238	0.279	0.318	0.354	0.382	0.354	0.318	0.279	0.238	0.196	26.523	122.33	228.57	329.16	412.19	468.5	487.97
67	490.61	469.75	413.73	329.63	228.66	121.36	25.253	0.194	0.237	0.28	0.315	0.351	0.379	0.351	0.315	0.28	0.237	0.194	25.253	121.36	228.66	329.63	413.73	469.75	490.61
68	492.4	471.8	414.95	329.84	228.27	120.46	23.923	0.191	0.236	0.28	0.313	0.345	0.373	0.345	0.313	0.28	0.236	0.191	23.923	120.46	228.27	329.84	414.95	471.8	492.4
69	493.75	473.1	415.54	330.44	228.17	119.42	22.606	0.19	0.235	0.28	0.312	0.34	0.365	0.34	0.312	0.28	0.235	0.19	22.606	119.42	228.17	330.44	415.54	473.1	493.75
70	494.98	474.97	416.52	330.76	227.7	118.45	21.33	0.188	0.233	0.28	0.31	0.335	0.357	0.335	0.31	0.28	0.233	0.188	21.33	118.45	227.7	330.76	416.52	474.97	494.98
71	496.38	475.76	417.22	330.94	227.26	117.33	20.003	0.186	0.233	0.28	0.309	0.33	0.348	0.33	0.309	0.28	0.233	0.186	20.003	117.33	227.26	330.94	417.22	475.76	496.38
72	497.89	476.81	417.77	330.91	226.56	116.17	18.703	0.184	0.232	0.279	0.309	0.327	0.338	0.327	0.309	0.279	0.232	0.184	18.703	116.17	226.56	330.91	417.77	476.81	497.89
73	499.01	477.71	418.28	330.74	225.96	115.05	17.423	0.182	0.231	0.279	0.309	0.324	0.329	0.324	0.309	0.279	0.231	0.182	17.423	115.05	225.96	330.74	418.28	477.71	499.01
74	499.43	478.36	418.38	330.51	225.43	113.84	16.131	0.18	0.23	0.278	0.308	0.322	0.32	0.322	0.308	0.278	0.23	0.18	16.131	113.84	225.43	330.51	418.38	478.36	499.43
75	499.96	478.21	418.32	330.26	224.47	112.68	14.898	0.178	0.229	0.278	0.309	0.322	0.312	0.322	0.309	0.278	0.229	0.178	14.898	112.68	224.47	330.26	418.32	478.21	499.96
76	500.41	478.54	418.21	329.47	223.59	111.35	13.669	0.176	0.228	0.277	0.309	0.323	0.308	0.323	0.309	0.277	0.228	0.176	13.669	111.35	223.59	329.47	418.21	478.54	500.41
77	499.93	478.52	418.14	329.11	222.63	110.02	12.463	0.174	0.227	0.277	0.309	0.324	0.303	0.324	0.309	0.277	0.227	0.174	12.463	110.02	222.63	329.11	418.14	478.52	499.93
78	499.81	478.72	417.53	328.51	221.65	108.67	11.295	0.171	0.226	0.276	0.309	0.324	0.299	0.324	0.309	0.276	0.226	0.171	11.295	108.67	221.65	328.51	417.53	478.72	499.81
79	499.64	478.36	417.28	327.85	220.51	107.27	10.152	0.168	0.224	0.276	0.309	0.324	0.295	0.324	0.309	0.276	0.224	0.168	10.152	107.27	220.51	327.85	417.28	478.36	499.64
80	498.83	477.26	416.01	326.53	219.2	105.76	9.037	0.166	0.222	0.275	0.31	0.324	0.293	0.324	0.31	0.275	0.222	0.166	9.037	105.76	219.2	326.53	416.01	477.26	498.83
81	498.06	476.65	415.28	325.38	217.84	104.46	7.944	0.163	0.22	0.275	0.31	0.325	0.29	0.325	0.31	0.275	0.22	0.163	7.944	104.46	217.84	325.38	415.28	476.65	498.06
82	497.75	475.63	414.33	324.24	216.38	102.88	6.912	0.161	0.219	0.275	0.311	0.327	0.289	0.327	0.311	0.275	0.219	0.161	6.912	102.88	216.38	324.24	414.33	475.63	497.75
83	495.73	474.65	412.98	322.99	215.01	101.4	5.931	0.159	0.219	0.275	0.312	0.329	0.29	0.329	0.312	0.275	0.219	0.159	5.931	101.4	215.01	322.99	412.98	474.65	495.73
84	494.77	473.2	411.74	321.59	213.41	99.808	5.029	0.158	0.219	0.276	0.314	0.331	0.291	0.331	0.314	0.276	0.219	0.158	5.029	99.808	213.41	321.59	411.74	473.2	494.77
85	493.01	472.21	410.13	320.06	211.96	98.295	4.21	0.157	0.219	0.277	0.316	0.333	0.292	0.333	0.316	0.277	0.219	0.157	4.21	98.295	211.96	320.06	410.13	472.21	493.01
86	491.16	469.75	408.35	318.05	210.1	96.628	3.466	0.157	0.219	0.279	0.318	0.335	0.294	0.335	0.318	0.279	0.219	0.157	3.466	96.628	210.1	318.05	408.35	469.75	491.16
87	489.35	468.09	406.51	316.53	208.33	95.057	2.803	0.157	0.221	0.28	0.32	0.338	0.295	0.338	0.32	0.28	0.221	0.157	2.803	95.057	208.33	316.53	406.51	468.09	489.35
88	487.38	465.73	404.4	314.65	206.61	93.308	2.224	0.157	0.222	0.282	0.323	0.341	0.298	0.341	0.323	0.282	0.222	0.157	2.224	93.308	206.61	314.65	404.4	465.73	487.38
89	484.29	463.51	402.37	312.51	204.55	91.647	1.731	0.158	0.223	0.284	0.326	0.343	0.301	0.343	0.326	0.284	0.223	0.158	1.731	91.647	204.55	312.51	402.37	463.51	484.29
90	483.02	460.82	400.4	310.28	202.59	89.941	1.334	0.159	0.224	0.286	0.328	0.346	0.305	0.346	0.328	0.286	0.224	0.159	1.334	89.941	202.59	310.28	400.4	460.82	483.02
91	479.7	458.33	397.57	308.06	200.67	88.215	0.99	0.16	0.226	0.288	0.33	0.349	0.307	0.349	0.33	0.288	0.226	0.16	0.99	88.215	200.67	308.06	397.57	458.33	479.7
92	476.87	455.6	394.89	305.74	198.3	86.4	0.711	0.161	0.228	0.29	0.332	0.351	0.309	0.351	0.332	0.29	0.228	0.161	0.711	86.4	198.3	305.74	394.89	455.6	476.87
93	473.43	452.71	392.31	303.22	196.16	84.698	0.49	0.162	0.23	0.293	0.335	0.354	0.311	0.354	0.335	0.293	0.23	0.162	0.49	84.698	196.16	303.22	392.31	452.71	473.43
94	470.14	449.24	389.35	300.75	193.91	82.843	0.311	0.163	0.232	0.295	0.338	0.358	0.317	0.358	0.338	0.295	0.232	0.163	0.311	82.					

104	428.2	409.03	352.99	269.16	167.79	63.794	0.112	0.175	0.252	0.321	0.376	0.406	0.403	0.406	0.376	0.321	0.252	0.175	0.112	63.794	167.79	269.16	352.99	409.03	428.2
105	423.26	404.38	348.64	265.4	164.97	61.767	0.112	0.176	0.253	0.321	0.377	0.407	0.407	0.407	0.377	0.321	0.253	0.176	0.112	61.767	164.97	265.4	348.64	404.38	423.26
106	418.26	399.35	344.15	261.72	162.03	59.781	0.114	0.176	0.252	0.322	0.377	0.408	0.412	0.408	0.377	0.322	0.252	0.176	0.114	59.781	162.03	261.72	344.15	399.35	418.26
107	412.74	394.47	339.53	257.98	158.99	57.743	0.114	0.176	0.252	0.32	0.375	0.403	0.417	0.403	0.375	0.32	0.252	0.176	0.114	57.743	158.99	257.98	339.53	394.47	412.74
108	407.46	388.71	334.79	254	155.91	55.75	0.115	0.176	0.25	0.319	0.375	0.404	0.421	0.404	0.375	0.319	0.25	0.176	0.115	55.75	155.91	254	334.79	388.71	407.46
109	401.98	383.41	330	249.99	152.78	53.737	0.116	0.176	0.25	0.319	0.376	0.406	0.425	0.406	0.376	0.319	0.25	0.176	0.116	53.737	152.78	249.99	330	383.41	401.98
110	396.14	378.04	325.29	245.94	149.68	51.71	0.117	0.177	0.251	0.32	0.376	0.406	0.429	0.406	0.376	0.32	0.251	0.177	0.117	51.71	149.68	245.94	325.29	378.04	396.14
111	390.34	372.6	320.07	241.61	146.48	49.613	0.118	0.178	0.252	0.321	0.378	0.407	0.431	0.407	0.378	0.321	0.252	0.178	0.118	49.613	146.48	241.61	320.07	372.6	390.34
112	384.59	366.87	315.31	237.25	143.35	47.655	0.119	0.179	0.253	0.323	0.379	0.41	0.435	0.41	0.379	0.323	0.253	0.179	0.119	47.655	143.35	237.25	315.31	366.87	384.59
113	378.68	361.07	310.13	233.19	139.95	45.58	0.119	0.18	0.252	0.322	0.378	0.407	0.437	0.407	0.378	0.322	0.252	0.18	0.119	45.58	139.95	233.19	310.13	361.07	378.68
114	372.34	355.32	304.96	229	136.65	43.535	0.121	0.18	0.252	0.322	0.376	0.406	0.436	0.406	0.376	0.322	0.252	0.18	0.121	43.535	136.65	229	304.96	355.32	372.34
115	366.35	349.39	299.53	224.43	133.2	41.52	0.122	0.18	0.252	0.321	0.374	0.403	0.437	0.403	0.374	0.321	0.252	0.18	0.122	41.52	133.2	224.43	299.53	349.39	366.35
116	359.58	343.29	293.95	219.86	129.86	39.453	0.123	0.181	0.25	0.318	0.369	0.398	0.438	0.398	0.369	0.318	0.25	0.181	0.123	39.453	129.86	219.86	293.95	343.29	359.58
117	353.13	336.77	288.31	215.4	126.49	37.384	0.124	0.181	0.25	0.316	0.366	0.394	0.438	0.394	0.366	0.316	0.25	0.181	0.124	37.384	126.49	215.4	288.31	336.77	353.13
118	346.77	330.58	282.84	210.65	123.08	35.381	0.125	0.183	0.249	0.316	0.364	0.391	0.438	0.391	0.364	0.316	0.249	0.183	0.125	35.381	123.08	210.65	282.84	330.58	346.77
119	340.29	324.14	277.37	206.08	119.66	33.302	0.127	0.183	0.249	0.315	0.362	0.389	0.437	0.389	0.362	0.315	0.249	0.183	0.127	33.302	119.66	206.08	277.37	324.14	340.29
120	333.36	317.85	271.52	201.28	116.17	31.249	0.129	0.184	0.25	0.314	0.361	0.387	0.435	0.387	0.361	0.314	0.25	0.184	0.129	31.249	116.17	201.28	271.52	317.85	333.36
121	326.7	311.2	265.58	196.59	112.63	29.263	0.13	0.186	0.25	0.314	0.36	0.385	0.434	0.385	0.36	0.314	0.25	0.186	0.13	29.263	112.63	196.59	265.58	311.2	326.7
122	319.89	304.44	259.65	191.62	109.15	27.222	0.132	0.187	0.251	0.314	0.359	0.384	0.434	0.384	0.359	0.314	0.251	0.187	0.132	27.222	109.15	191.62	259.65	304.44	319.89
123	313.02	297.86	253.67	186.86	105.56	25.205	0.134	0.188	0.252	0.314	0.358	0.383	0.434	0.383	0.358	0.314	0.252	0.188	0.134	25.205	105.56	186.86	253.67	297.86	313.02
124	306.03	291.12	247.75	181.88	102.05	23.213	0.136	0.19	0.253	0.314	0.357	0.382	0.433	0.382	0.357	0.314	0.253	0.19	0.136	23.213	102.05	181.88	247.75	291.12	306.03
125	299.14	284.18	241.8	176.84	98.409	21.202	0.138	0.192	0.253	0.313	0.355	0.379	0.43	0.379	0.355	0.313	0.253	0.192	0.138	21.202	98.409	176.84	241.8	284.18	299.14
126	291.6	277.37	235.63	171.94	94.835	19.222	0.141	0.194	0.254	0.313	0.354	0.376	0.428	0.376	0.354	0.313	0.254	0.194	0.141	19.222	94.835	171.94	235.63	277.37	291.6
127	284.1	270.11	229.47	166.84	91.318	17.255	0.144	0.196	0.255	0.312	0.352	0.374	0.425	0.374	0.352	0.312	0.255	0.196	0.144	17.255	91.318	166.84	229.47	270.11	284.1
128	277.03	263.26	223.03	161.67	87.723	15.337	0.146	0.199	0.256	0.312	0.35	0.371	0.422	0.371	0.35	0.312	0.256	0.199	0.146	15.337	87.723	161.67	223.03	263.26	277.03
129	269.53	256.1	216.55	156.65	84.032	13.45	0.149	0.201	0.257	0.311	0.348	0.368	0.419	0.368	0.348	0.311	0.257	0.201	0.149	13.45	84.032	156.65	216.55	256.1	269.53
130	262.13	248.92	210.24	151.42	80.416	11.653	0.153	0.204	0.258	0.311	0.346	0.365	0.417	0.365	0.346	0.311	0.258	0.204	0.153	11.653	80.416	151.42	210.24	248.92	262.13
131	254.65	241.91	204.05	146.18	76.873	9.923	0.156	0.206	0.259	0.31	0.344	0.363	0.415	0.363	0.344	0.31	0.259	0.206	0.156	9.923	76.873	146.18	204.05	241.91	254.65
132	247.26	234.32	197.47	140.97	73.201	8.356	0.159	0.209	0.261	0.309	0.34	0.36	0.413	0.36	0.34	0.309	0.261	0.209	0.159	8.356	73.201	140.97	197.47	234.32	247.26
133	239.5	227.16	191.01	135.8	69.607	6.876	0.163	0.212	0.262	0.307	0.338	0.358	0.411	0.358	0.338	0.307	0.262	0.212	0.163	6.876	69.607	135.8	191.01	227.16	239.5
134	231.82	219.79	184.54	130.49	66.029	5.504	0.167	0.215	0.264	0.305	0.337	0.355	0.408	0.355	0.337	0.305	0.264	0.215	0.167	5.504	66.029	130.49	184.54	219.79	231.82
135	224.45	212.54	177.97	125.29	62.52	4.286	0.17	0.218	0.265	0.304	0.337	0.352	0.406	0.352	0.337	0.304	0.265	0.218	0.17	4.286	62.52	125.29	177.97	212.54	224.45
136	216.48	205.24	171.42	120.01	58.943	3.211	0.174	0.221	0.266	0.305	0.338	0.349	0.403	0.349	0.338	0.305	0.266	0.221	0.174	3.211	58.943	120.01	171.42	205.24	216.48
137	208.83	197.58	164.88	114.81	55.418	2.255	0.177	0.223	0.266	0.306	0.337	0.346	0.402	0.346	0.337	0.306	0.266	0.223	0.177	2.255	55.418	114.81	164.88	197.58	208.83
138	201.19	190.33	158.2	109.4	51.876	1.451	0.181	0.225	0.267	0.306	0.335	0.343	0.399	0.343	0.335	0.306	0.267	0.225	0.181	1.451	51.876	109.4	158.2	190.33	201.19
139	193.25	182.62	151.58	104.07	48.3	0.859	0.183	0.227	0.267	0.306	0.332	0.338	0.395	0.338	0.332	0.306	0.267	0.227	0.183	0.859	48.3	104.07	151.58	182.62	193.25
140	185.5	175.16	144.78	98.967	44.818	0.483	0.185	0.227	0.267	0.305	0.328	0.333	0.39	0.333	0.328	0.305	0.267	0.227	0.185	0.483	44.818	98.967	144.78	175.16	185.5
141	177.64	167.7	138.14	93.702	41.316	0.218	0.187	0.228	0.267	0.303	0.323	0.327	0.384	0.327	0.323	0.303	0.267	0.228	0.187	0.218	41.316	93.702	138.14	167.7	177.64
142	169.92	160.07	131.41	88.407	37.796	0.148	0.189	0.229	0.266	0.3	0.318	0.321	0.378	0.321	0.318	0.3	0.266	0.229	0.189	0.148	37.796	88.407	131.41	160.07	169.92
143	162.16	152.75	124.86	83.202	34.328	0.149	0.19	0.23	0.266	0.296	0.313	0.314	0.372	0.314	0.313	0.296	0.266	0.23	0.19	0.149	34.328	83.202	124.86	152.75	162.16
144	154.47	145.01	118.19	77.926	30.791	0.152	0.192	0.229	0.265	0.292	0.307	0.307	0.364	0.307	0.307	0.292	0.265	0.229	0.192	0.152	30.791	77.926	118.19	145.01	154.47
145	146.42	137.35	111.53	72.782	27.318	0.154	0.194	0.229	0.262	0.288	0.301	0.3	0.356	0.3	0.301	0.288	0.262	0.229	0.194	0.154	27.318	72.782	111.53	137.35	146.42
146	138.73	129.92	104.95	67.508	23.861	0.156	0.195	0.228	0.259	0.282	0.293	0.291	0.345	0.291	0.293	0.282	0.259	0.228	0.195	0.156	23.861	67.508	104.95	129.92	138.73
147	130.93	122.47	98.418	62.54	20.512	0.158	0.195	0.227	0.256	0.276	0.285	0.282	0.334	0.282	0.285	0.276	0.256	0.227	0.195	0.158	20.512	62.54	98.418	122.47	130.93
148	123.34	115.06	91.855	57.412	17.108	0.16	0.196	0.226	0.253	0.271	0.278	0.273	0.323	0.273	0.278	0.271	0.253	0.226	0.196	0.16	17.108	57.412	9		

158	50.701	44.329	29.423	9.22	0.159	0.187	0.207	0.22	0.226	0.223	0.213	0.198	0.219	0.198	0.213	0.223	0.226	0.22	0.207	0.187	0.159	9.22	29.423	44.329	50.701
159	44.012	37.831	23.666	5.848	0.161	0.188	0.206	0.216	0.219	0.214	0.203	0.188	0.205	0.188	0.203	0.214	0.219	0.216	0.206	0.188	0.161	5.848	23.666	37.831	44.012
160	37.474	31.423	18.372	3.199	0.163	0.187	0.203	0.211	0.212	0.205	0.192	0.177	0.19	0.177	0.192	0.205	0.212	0.211	0.203	0.187	0.163	3.199	18.372	31.423	37.474
161	31.007	25.194	13.165	1.483	0.165	0.186	0.2	0.205	0.203	0.195	0.182	0.166	0.175	0.166	0.182	0.195	0.203	0.205	0.2	0.186	0.165	1.483	13.165	25.194	31.007
162	24.735	19.356	8.521	0.457	0.167	0.187	0.198	0.201	0.197	0.187	0.173	0.157	0.164	0.157	0.173	0.187	0.197	0.201	0.198	0.187	0.167	0.457	8.521	19.356	24.735
163	18.702	13.706	4.736	0.151	0.169	0.187	0.196	0.197	0.191	0.18	0.164	0.149	0.152	0.149	0.164	0.18	0.191	0.197	0.196	0.187	0.169	0.151	4.736	13.706	18.702
164	13.045	8.587	2.224	0.149	0.17	0.186	0.193	0.192	0.185	0.173	0.157	0.141	0.143	0.141	0.157	0.173	0.185	0.192	0.193	0.186	0.17	0.149	2.224	8.587	13.045
165	8.124	4.462	0.603	0.152	0.172	0.186	0.191	0.188	0.179	0.166	0.149	0.134	0.132	0.134	0.149	0.166	0.179	0.188	0.191	0.186	0.172	0.152	0.603	4.462	8.124
166	4.484	1.805	0.142	0.155	0.174	0.185	0.189	0.184	0.174	0.16	0.143	0.127	0.122	0.127	0.143	0.16	0.174	0.184	0.189	0.185	0.174	0.155	0.142	1.805	4.484
167	1.652	0.23	0.136	0.157	0.175	0.185	0.187	0.181	0.17	0.154	0.137	0.122	0.113	0.122	0.137	0.154	0.17	0.181	0.187	0.185	0.175	0.157	0.136	0.23	1.652
168	0.085	0.118	0.139	0.159	0.175	0.184	0.184	0.177	0.165	0.149	0.131	0.116	0.107	0.116	0.131	0.149	0.165	0.177	0.184	0.184	0.175	0.159	0.139	0.118	0.085
169	0.076	0.121	0.142	0.161	0.175	0.182	0.181	0.173	0.161	0.144	0.126	0.112	0.099	0.112	0.126	0.144	0.161	0.173	0.181	0.182	0.175	0.161	0.142	0.121	0.076
170	0.078	0.125	0.144	0.162	0.174	0.18	0.178	0.169	0.156	0.14	0.122	0.108	0.093	0.108	0.122	0.14	0.156	0.169	0.178	0.18	0.174	0.162	0.144	0.125	0.078
171	0.081	0.128	0.148	0.164	0.177	0.182	0.18	0.171	0.158	0.141	0.123	0.108	0.093	0.108	0.123	0.141	0.158	0.171	0.18	0.182	0.177	0.164	0.148	0.128	0.081
172	0.085	0.131	0.151	0.168	0.181	0.186	0.185	0.176	0.162	0.145	0.127	0.112	0.098	0.112	0.127	0.145	0.162	0.176	0.185	0.186	0.181	0.168	0.151	0.131	0.085
173	0.087	0.134	0.153	0.169	0.182	0.188	0.186	0.178	0.165	0.148	0.129	0.114	0.097	0.114	0.129	0.148	0.165	0.178	0.186	0.188	0.182	0.169	0.153	0.134	0.087
174	0.091	0.136	0.154	0.171	0.183	0.189	0.188	0.18	0.168	0.152	0.133	0.118	0.097	0.118	0.133	0.152	0.168	0.18	0.188	0.189	0.183	0.171	0.154	0.136	0.091
175	0.094	0.137	0.154	0.169	0.18	0.186	0.186	0.18	0.168	0.153	0.135	0.121	0.097	0.121	0.135	0.153	0.168	0.18	0.186	0.186	0.18	0.169	0.154	0.137	0.094
176	0.096	0.137	0.152	0.165	0.175	0.181	0.18	0.174	0.164	0.15	0.134	0.122	0.098	0.122	0.134	0.15	0.164	0.174	0.18	0.181	0.175	0.165	0.152	0.137	0.096
177	0.097	0.135	0.148	0.159	0.168	0.173	0.172	0.167	0.157	0.145	0.131	0.121	0.099	0.121	0.131	0.145	0.157	0.167	0.172	0.173	0.168	0.159	0.148	0.135	0.097
178	0.099	0.133	0.143	0.153	0.161	0.165	0.164	0.16	0.151	0.141	0.129	0.121	0.097	0.121	0.129	0.141	0.151	0.16	0.164	0.165	0.161	0.153	0.143	0.133	0.099
179	0.099	0.129	0.138	0.146	0.153	0.156	0.156	0.152	0.145	0.136	0.127	0.121	0.097	0.121	0.127	0.136	0.145	0.152	0.156	0.156	0.153	0.146	0.138	0.129	0.099
180	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	ET @ 11W/5000K	Sample ID.	DLF2503101-F1
Temperature (°C)	25.1	Humidity (%RH)	57.0

Test Method

The samples were tested according to the ANSI C82.77-10:2014.

The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ and 10% - 65% RH. 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
120.00	60	0.085	10.1	0.996	4.70%
276.98	60	0.042	10.6	0.914	15.99%

5.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2024/12/23	2025/12/22
DLF108	Auxiliary Lamp	2024/12/23	2025/12/22
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.473 A, Tungsten, Omni-derectional	2024/12/23	2025/12/22
DLF116	AC Power Source	2024/12/13	2025/12/12
DLF516	Power Meter	2024/12/13	2025/12/12
DLF114	Temperature & Humidity Datalogger	2024/12/19	2025/12/18
DLF101	Goniophotometer	2024/12/23	2025/12/22
DLF521	Measurement Standard Lamp Standard Lamp Type: Tungsten, Omni- derectional	2024/12/23	2025/12/22
DLF512	AC Power Source	2024/12/13	2025/12/12
DLF507	DC Power Source	2024/12/13	2025/12/12
DLF111	Temperature & Humidity Datalogger	2024/12/19	2025/12/18
DLF119	Power Meter	2024/12/13	2025/12/12
DLF530	Hot-wire anemometer	2025/1/23	2026/1/22
DLF129	Clock	2024/6/20	2025/6/19

***** End of Test Report*****