Photometric Test Report

Relevant Standards

☑IES LM-79-2008

☑ANSI C82.77:2017

Prepared For

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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-79-2008	300		6577
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2) (0°-180° zones)	IES LM-79-2008	Standard 105	Premium 120	127.5
Luminaire Output (lm) (Goniophotometer - Section 4.2) (0°-90° zones)	IES LM-79-2008	300		6386
Minimum Luminaire Efficacy (lm/W) (Goniophotometer - Section 4.2) (0°-90° zones)	IES LM-79-2008	Standard 105	Premium 120	123.8
Power (Input Wattage) (W) (Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		51.6
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	4.37%
		20.00%	277V	5.18%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.998
		0.9	277V	0.970
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3045±175	4042
		4 step	3045±100	
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		6
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 (80°-90°) (Goniophotometer - Section 4.2)	IES LM-79-2008	⩽10%		2.76%
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		0.431
(Goniophotometer - Section 4.2)		Non-Worst Case		0.189
Power (Input Wattage - W)				
(Goniophotometer - Section 4.2)	IES LM-79-2008	Worst Case		51.6
(Goniophotometer - Section 4.2)		Non-Worst Case		50.9

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2020/8/13	W34-55L-840	C1
2	Goniophotometer Test	2020/8/13	W34-55L-840	C1
3	THD and PF Test	2020/8/13	W34-55L-840	C1

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: W34-55L-840

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.	W34-55L-840	Sample ID.	C1
Opreate 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-79-2008.
Photometric paramters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25º C ± 1º 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 ±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	0.431	51.6	0.998
277.00	60	0.189	50.9	0.970

Test Result

CCT (K)	CRI	R9	Duv
4042	83	6	0.0016

Rf	Rg	IES Rcs,h1
84	95	-12%

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	W34-55L-840	Sample ID.	C1
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° 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^{o} vertical intervals and 10^{o} horizontal intervals.

Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WORST CASE	120.00	60	0.431	51.6	0.998
NON-WORST CASE	277.00	60	0.189	50.9	0.970

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	6577	107.2	161.0	60.2	121.0	127.5
0°-90° zones	6386	107.2	161.0	60.2	121.0	123.8

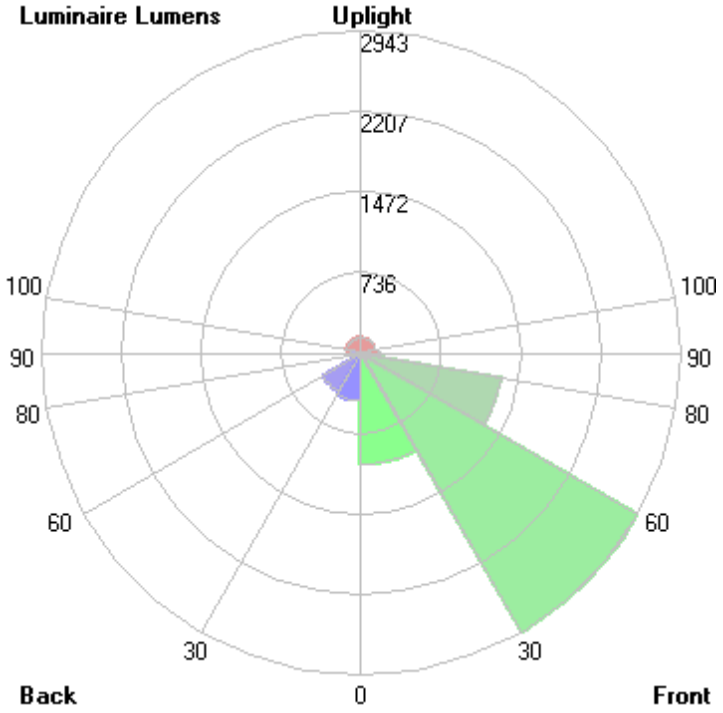
Zonal Lumen Requirement (80°-90°)	BUG rating
2.76%	B1-U3-G2

4.2 Goniophotometer Test

	Zonal (lm)		Total (lm)	Percent
0-10	174.10	0 - 10	174.10	2.65%
10-20	504.06	0 - 20	678.16	10.31%
20-30	779.43	0 - 30	1457.59	22.16%
30-40	1052.4	0 - 40	2509.99	38.16%
40-50	1174.84	0 - 50	3684.83	56.03%
50-60	1123.08	0 - 60	4807.91	73.10%
60-70	903.12	0 - 70	5711.03	86.83%
70-80	493.44	0 - 80	6204.47	94.33%
80-90	181.51	0 - 90	6385.98	97.09%
90-100	55.99	0 - 100	6441.97	97.95%
100-110	36.82	0 - 110	6478.79	98.51%
110-120	32.66	0 - 120	6511.45	99.00%
120-130	29.46	0 - 130	6540.91	99.45%
130-140	21.05	0 - 140	6561.96	99.77%
140-150	10.64	0 - 150	6572.60	99.93%
150-160	3.43	0 - 160	6576.03	99.98%
160-170	0.78	0 - 170	6576.81	100.00%
170-180	0.26	0 - 180	6577.07	100.00%

4.2 Goniophotometer Test

LCS/BUG



	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	1019.1	N.A.	15.5
FM - Front-Medium (30-60)	2943.1	N.A.	44.7
FH - Front-High (60-80)	1309.5	N.A.	19.9
FVH - Front-Very High (80-90)	174.1	N.A.	2.6
BL - Back-Low (0-30)	438.5	N.A.	6.7
BM - Back-Medium (30-60)	407.3	N.A.	6.2
BH - Back-High (60-80)	87.1	N.A.	1.3
BVH - Back-Very High (80-90)	7.4	N.A.	0.1
UL - Uplight-Low (90-100)	56.0	N.A.	0.9
UH - Uplight-High (100-180)	135.1	N.A.	2.1
Total	6577.2	N.A.	100.0
BUG Rating	B1-U3-G2		

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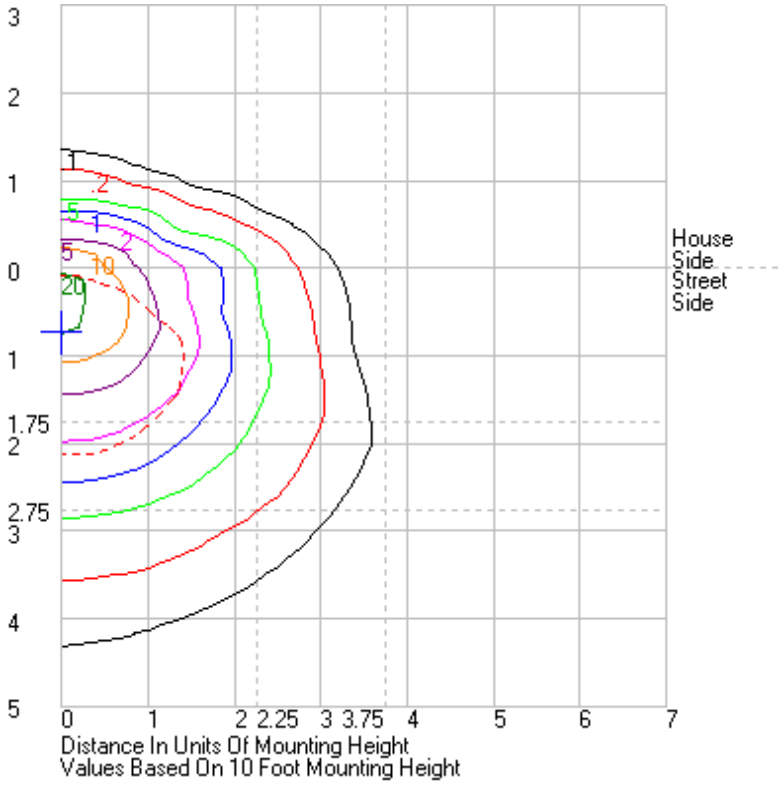
3
2
1
0
1
1.75
2
2.75
3
4
5
1
2
5
10
20
House Side
Street Side
0 1 2 2.25 3 3.75 4 5 6 7
Distance In Units Of Mounting Height
Values Based On 10 Foot Mounting Height

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	W34-55L-840	Sample ID.	C1
Temperature (°C)	25.1	Humidity (%RH)	57.0

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 25º C ± 1º C. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion were calculated.

Test Results					
Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD
120.00	60	0.431	51.6	0.998	4.37%
277.00	60	0.189	50.9	0.970	5.18%

5.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2019/12/26	2020/12/25
DLF108	Auxiliary Lamp	2019/12/26	2020/12/25
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2019/12/26	2020/12/25
DLF116	AC Power Source	2019/12/26	2020/12/25
DLF113	Power Meter	2019/12/26	2020/12/25
DLF112	Temperature Recorder	2019/12/26	2020/12/25
DLF114	Temperature & Humidity Datalogger	2019/12/26	2020/12/25
DLF101	Goniophotometer	2019/12/26	2020/12/25
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2019/12/26	2020/12/25
DLF104	AC Power Source	2019/12/26	2020/12/25
DLF507	DC Power Source	2019/12/26	2020/12/25
DLF102	Power Meter	2019/12/26	2020/12/25
DLF111	Temperature & Humidity Datalogger	2019/12/26	2020/12/25
DLF119	Power Meter	2019/12/26	2020/12/25
DLF031	Temperature data logger	2019/12/26	2020/12/25
DLF022	Digital power meter	2019/12/26	2020/12/25
DLF003	Temperature & Humidity Datalogger	2019/12/26	2020/12/25

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