

Test Report

Report Number: L21070

Date: Apr 16, 2021

Issued by:

Dialight Optics Laboratory
1501 Route 34 South, Farmingdale, NJ 07727

Test of one F1 - Flood Light
Unit manufacturer: Dialight Corporation
Unit model number: F1x-7FA2-Bxxx-xxx

Issued to:

Dialight Corporation
1501 Route 34 South, Farmingdale, NJ 07727

Tests performed: Photometric characterization and temperature measurement per the described standards.

Dates of test: March 31, 2021 through April 12, 2021

Standards used: All tests are performed in accordance with procedures and guidelines prescribed by the American National Standards Institute (ANSI) or Illuminating Engineering Society of North America (IES):

- IES LM-79:2008: Electrical and Photometric Measurements of Solid-State Lighting Products
- ANSI/UL 1598:2008: Underwriters Laboratories Inc. Standard for Safety: Luminaires
- ENERGY STAR Manufacturer's Guide for Qualifying Solid State Lighting Luminaires Version 2.1

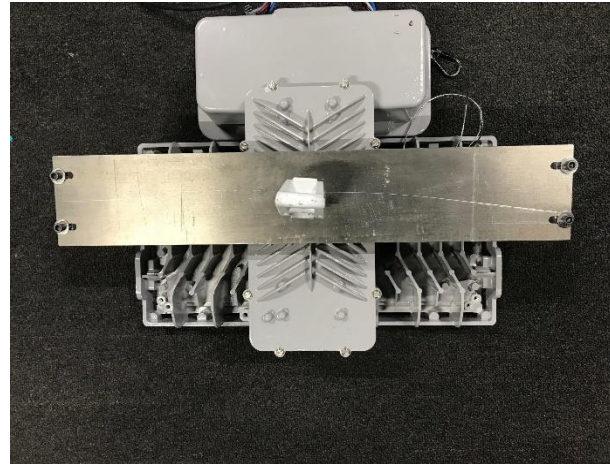
Description of sample:

Sample Number: L21070
Manufacturer: Dialight Corporation
Product Name: Glass Window, Asymmetric, Amber, 100-277V, 12k
Description: F1 - Flood Light
Model Number: F1x-7FA2-Bxxx-xxx

Report Summary

Sample number L21070
Dialight unit model number F1x-7FA2-Bxxx-xxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	11890 (lumens)	11676 (lumens)
Electrical Power:	225.9 (W)	225.6 (W)
Luminous Efficacy:	52.63 (lumens/W)	51.75 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 225.9 (W)
 Power Factor (120VAC): 0.996064
 Current ATHD % (120VAC): 4.87852
 Input Power (277VAC): 215.2 (W)
 Power Factor (277VAC): 0.9654
 Current ATHD % (277VAC): 9.4

Color Measurements:

Correlated Color Temperature (CCT): 1980
 Color Rendering Index (CRI): 56.3975
 Chromaticity Coordinate (x): 0.552
 Chromaticity Coordinate (y): 0.443
 Chromaticity Coordinate (u'): 0.306
 Chromaticity Coordinate (v'): 0.369
 DUV: 0.0094

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21070.

Dialight unit model number F1x-7FA2-Bxxx-xxx

Test Conditions:

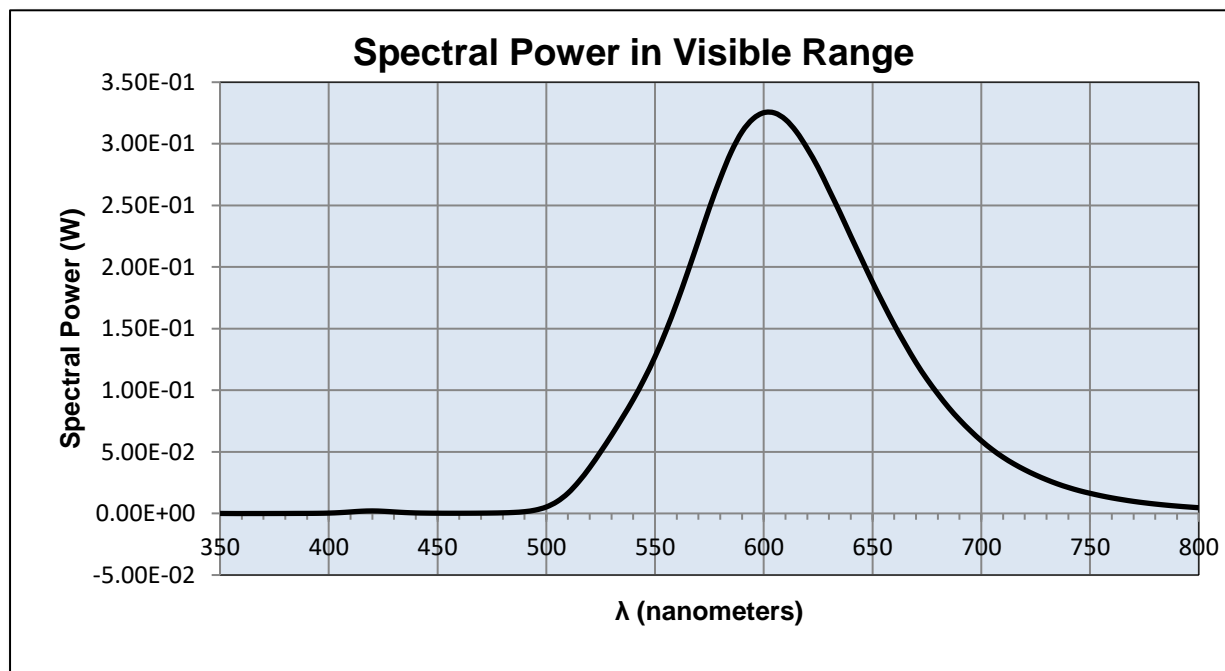
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 1.89075 (A)
Input Power: 225.9 (W)
Input Power Factor: 0.996064
Current ATHD: 4.87852 (%)

Photometric measurements:

Luminous Flux: 11890.2 (lumens)
Luminous Efficacy: 52.6 (lumens/W)
Correlated Color Temperature (CCT): 1980 (K)
CRI -Ra: 56.3975
CRI -R9: -58.9015
DUV: 0.0094
CIE Coordinate (x): 0.552
CIE Coordinate (y): 0.443
CIE Coordinate (u'): 0.306
CIE Coordinate (v'): 0.369
TM30_Rf: 27.0
TM30_Rg: 27.1
TM30_Rcs_hue1: -20.89 %



Test Results: Integrating Sphere

Results continued from previous page.

Tabulated Spectral Power in Visible Range:

$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)
350	-0.00002	490	0.00143	630	0.26265	770	0.00978
355	-0.00008	495	0.00273	635	0.24429	775	0.00862
360	-0.00010	500	0.00523	640	0.22507	780	0.00762
365	-0.00008	505	0.00967	645	0.20639	785	0.00673
370	-0.00008	510	0.01650	650	0.18770	790	0.00593
375	-0.00005	515	0.02597	655	0.17003	795	0.00524
380	-0.00003	520	0.03728	660	0.15308	800	0.00462
385	0.00001	525	0.05006	665	0.13733		
390	0.00004	530	0.06345	670	0.12239		
395	0.00011	535	0.07771	675	0.10905		
400	0.00028	540	0.09249	680	0.09705		
405	0.00064	545	0.10895	685	0.08590		
410	0.00121	550	0.12718	690	0.07602		
415	0.00179	555	0.14791	695	0.06713		
420	0.00202	560	0.17088	700	0.05905		
425	0.00175	565	0.19575	705	0.05187		
430	0.00123	570	0.22166	710	0.04561		
435	0.00073	575	0.24794	715	0.04019		
440	0.00041	580	0.27188	720	0.03542		
445	0.00025	585	0.29331	725	0.03118		
450	0.00018	590	0.30973	730	0.02739		
455	0.00014	595	0.32018	735	0.02399		
460	0.00014	600	0.32526	740	0.02107		
465	0.00017	605	0.32501	745	0.01850		
470	0.00022	610	0.31969	750	0.01632		
475	0.00031	615	0.30979	755	0.01437		
480	0.00048	620	0.29625	760	0.01263		
485	0.00080	625	0.28069	765	0.01113		

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21070.
Dialight unit model number F1x-7FA2-Bxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 1.892 (A)
Input Power: 225.6 (W)
Power Factor: 0.9954

Photometric measurements:

Absolute Luminous Flux: 11676.2 (lumens)
Luminous Efficacy: 51.7 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1602	1610	1627	1644	1602	
5.00	1962	1870	1657	1502	1427	171
15.00	3061	2625	1847	1415	1278	593
25.00	4271	3246	2224	1345	1078	1168
35.00	7968	3375	2514	1285	2913	2699
45.00	15406	3341	2483	1337	866	4631
55.00	5980	6277	2164	1182	596	2923
65.00	1666	1587	1867	381	420	1123
75.00	635	152	130	129	501	430
85.00	62	16	15	22	42	22
90.00	3	1	1	1	1	

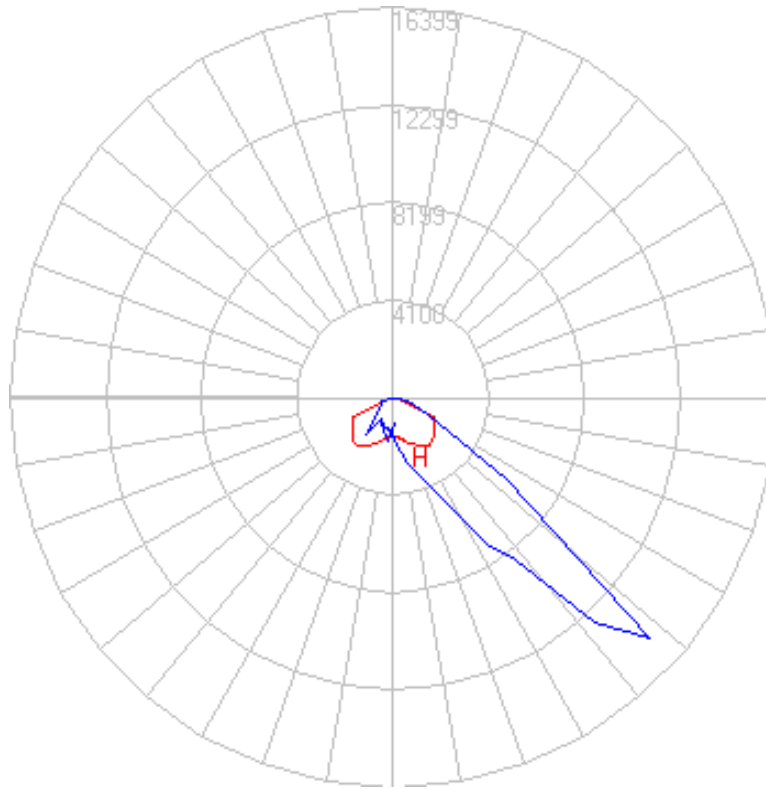
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	1882.09	16.12	16.12
0 to 40	3808.14	32.61	32.61
0 to 60	9992.79	85.58	85.58
0 to 90	11676.16	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	11676.16	100.00	100.00

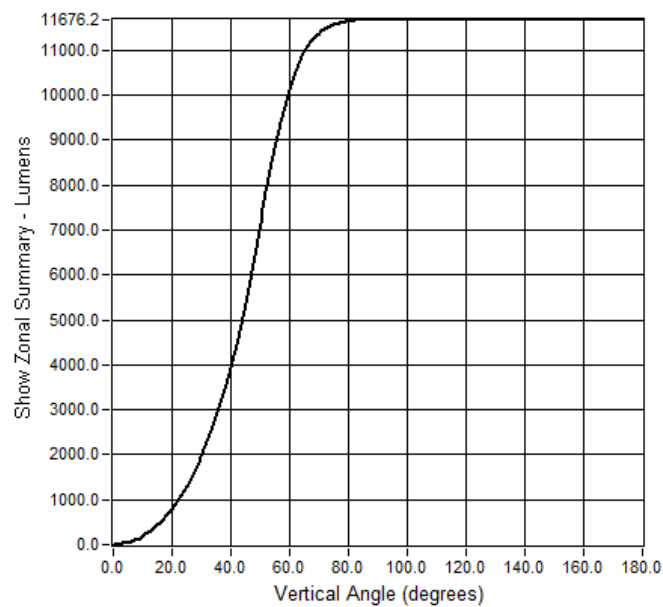
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



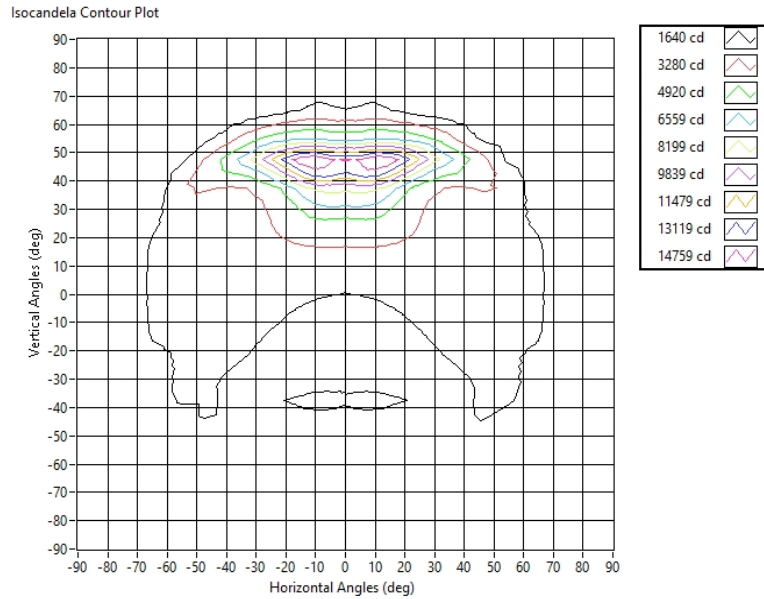
Zonal Flux Graph



Test Results: Goniometer

Results continued from previous page.

Illuminance Plot:



Illuminance-Cone of Light:

Mounting Height (ft)	Beam Cone Width (ft)	Orthogonal Beam Cone Width (ft)	Projected Illuminance (fc)
2	8.50	10.04	406.5
4	17.01	20.09	101.6
6	25.51	30.13	45.2
8	34.02	40.17	25.4
10	42.52	50.21	16.3
12	51.02	60.26	11.3
14	59.53	70.30	8.3
16	68.03	80.34	6.4
18	76.53	90.38	5.0
20	85.04	100.43	4.1

Equipment Used:

Equipment Name	Model Number
Omega TC	DPI8
YOKOGAWA Digital Power Meter	11/26/3981
LSI High Speed Mirror Goniometer	6240T
Elgar AC Power Supply	CW1251P
Sorensen DC Power Supply	XHR150-7
Dialight Confirmation Sample	HB1N4N
Dialight Confirmation Sample	HB1N4J
Fluke 8808A Digit Multimeter	8808A
Step-Up Transformer	
ITL Osram Calibraton lamps for Goniometer	J9a8
ITL Osram Calibraton lamps for Goniometer	J9a8
ITL Osram Calibraton lamps for Goniometer	J9a8
Fluke 971 Humidity Meter	8/28/1902
GwINSTEK DC Power Supply	GEP172679
Dialight Confirmation Sample	1/0/1900
Labsphere calibration lamp for 2M sphere	SCL-1400
Labshere 2M sphere	Illumia Plus 2600-1
Labshere Controller	PM-150-140
Labshere Spectrometer- CDS 2600 Spectrometer	CDS-2600
Xitron Power Analyzer	9/1/1907
LED Bulb for Electrical Confirmation Test-Gold Sample	Monte Carlo
LED Bulb for Electrical Confirmation Test-Gold Sample	Monte Carlo
LED Bulb for Electrical Confirmation Test-Gold Sample	Monte Carlo

Additional Notes:

Samples are received and tested in new and undamaged condition, unless otherwise noted. The results shown in this report are representative only of the test samples submitted. This data has been issued to the assignee for further evaluation. This report shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. This report shall not be reproduced, except in full, without the express written permission of Dialight Optics Laboratory.

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 Optical Engineer
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