

Test Report

Report Number: L21072

Date: May 11, 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-7FL2-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: April 28, 2021 through April 28, 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: L21072

Manufacturer: Dialight Corporation

Product Name: Glass Window, Asymmetric Forward Throw (Type IV), 70 CRI NW, 100-277V, 12K

Description: F1 - Flood Light

Model Number: F1x-7FL2-Bxxx-xxx

Report Summary

Sample number L21072
Dialight unit model number F1x-7FL2-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:	12063 (lumens)	12118 (lumens)
Electrical Power:	82.9 (W)	82.7 (W)
Luminous Efficacy:	145.4 (lumens/W)	146.5 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 82.9 (W)
 Power Factor (120VAC): 0.995028
 Current ATHD % (120VAC): 6.54063
 Input Power (277VAC): 80.7 (W)
 Power Factor (277VAC): 0.9648
 Current ATHD % (277VAC): 13.01

Color Measurements:

Correlated Color Temperature (CCT): 4032
 Color Rendering Index (CRI): 71.3898
 Chromaticity Coordinate (x): 0.381
 Chromaticity Coordinate (y): 0.384
 Chromaticity Coordinate (u'): 0.223
 Chromaticity Coordinate (v'): 0.336
 DUV: 0.0030

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21072.
Dialight unit model number F1x-7FL2-Bxxx-xxx

Test Conditions:

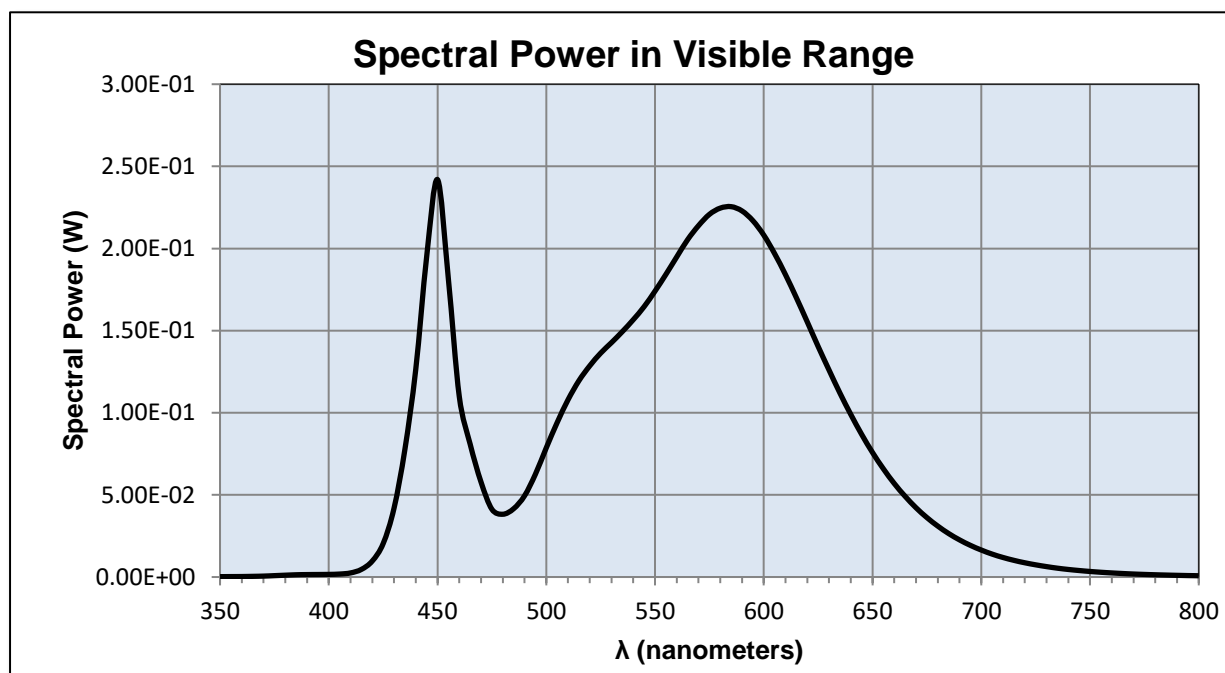
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 0.696621 (A)
Input Power: 82.9 (W)
Input Power Factor: 0.995028
Current ATHD: 6.54063 (%)

Photometric measurements:

Luminous Flux: 12062.81 (lumens)
Luminous Efficacy: 145.4 (lumens/W)
Correlated Color Temperature (CCT): 4032 (K)
CRI -Ra: 71.3898
CRI -R9: -45.9266
DUV: 0.0030
CIE Coordinate (x): 0.381
CIE Coordinate (y): 0.384
CIE Coordinate (u'): 0.223
CIE Coordinate (v'): 0.336
TM30_Rf: 72.3
TM30_Rg: 91.6
TM30_Rcs_hue1: -18.91 %



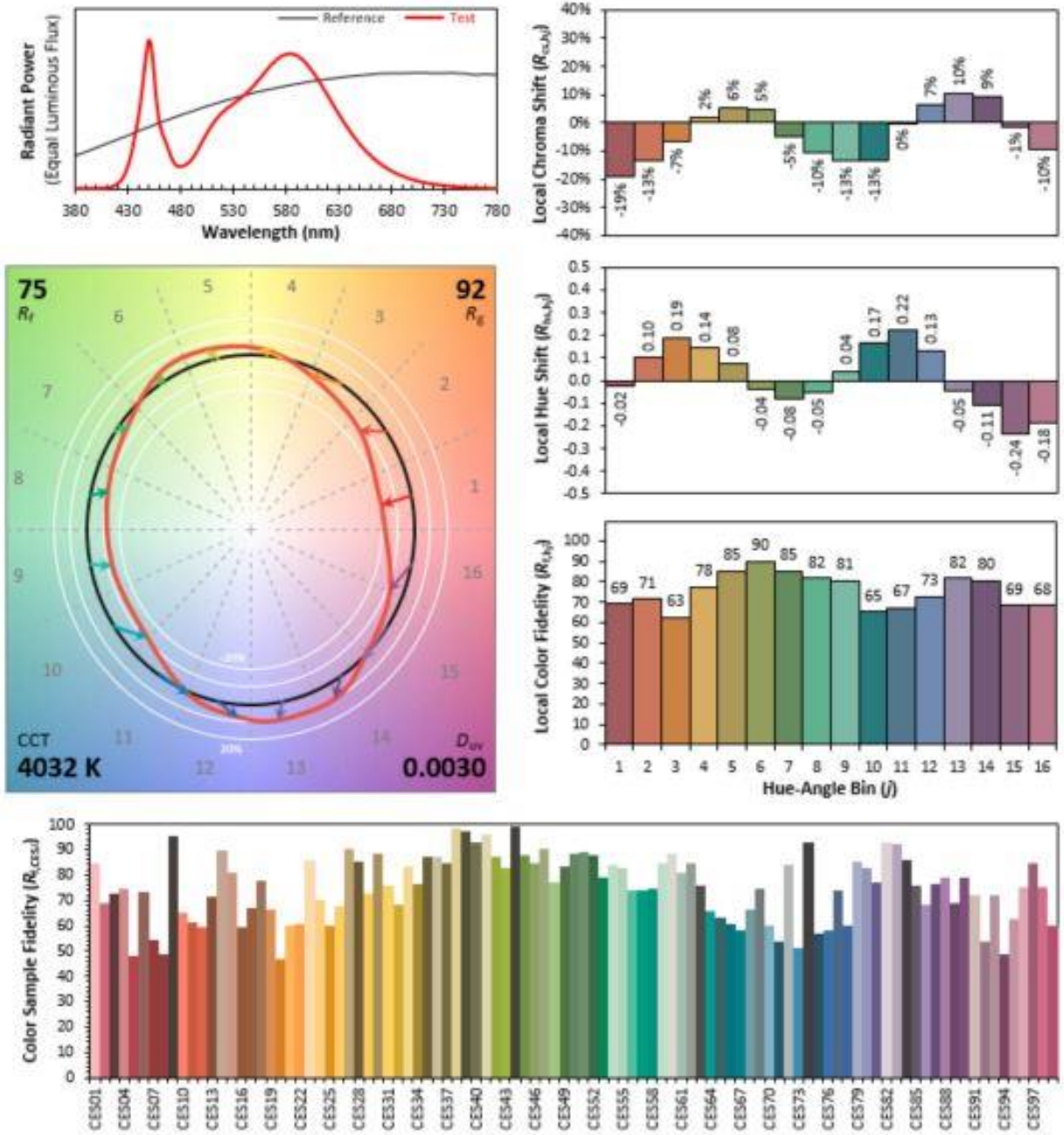
Test Results: Integrating Sphere

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	0.00022	490	0.04943	630	0.12601	770	0.00184
355	0.00027	495	0.06257	635	0.11202	775	0.00158
360	0.00030	500	0.07864	640	0.09898	780	0.00137
365	0.00042	505	0.09402	645	0.08686	785	0.00119
370	0.00056	510	0.10791	650	0.07578	790	0.00103
375	0.00084	515	0.11947	655	0.06585	795	0.00089
380	0.00111	520	0.12858	660	0.05692	800	0.00078
385	0.00137	525	0.13630	665	0.04911		
390	0.00149	530	0.14271	670	0.04217		
395	0.00154	535	0.14944	675	0.03620		
400	0.00160	540	0.15664	680	0.03101		
405	0.00181	545	0.16460	685	0.02648		
410	0.00250	550	0.17405	690	0.02260		
415	0.00464	555	0.18423	695	0.01928		
420	0.00973	560	0.19491	700	0.01643		
425	0.02036	565	0.20539	705	0.01395		
430	0.04190	570	0.21390	710	0.01190		
435	0.07774	575	0.22076	715	0.01015		
440	0.12647	580	0.22458	720	0.00868		
445	0.19490	585	0.22546	725	0.00742		
450	0.24193	590	0.22285	730	0.00634		
455	0.18121	595	0.21691	735	0.00539		
460	0.10983	600	0.20813	740	0.00461		
465	0.08092	605	0.19683	745	0.00395		
470	0.05781	610	0.18400	750	0.00339		
475	0.04125	615	0.16997	755	0.00290		
480	0.03822	620	0.15531	760	0.00249		
485	0.04160	625	0.14035	765	0.00214		

IES TM-30-18 Color Rendition Report



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

x 0.3811
 y 0.3836
 u' 0.2228
 v' 0.5046

CIE 13.3-1995
(CRI)
 R_a 71
 R_g -46

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21072.
Dialight unit model number F1x-7FL2-Bxxx-xxx

Electrical Measurements:

Input Voltage: 120.1 (VAC)
Input current: 0.6932 (A)
Input Power: 82.7 (W)
Power Factor: 0.9938

Photometric measurements:

Absolute Luminous Flux: 12118.3 (lumens)
Luminous Efficacy: 146.5 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1872	1882	1908	1944	1872	
5.00	2496	2296	1919	1670	1547	202
15.00	5217	3777	1975	1388	1183	820
25.00	8477	4649	2218	1206	825	1813
35.00	9711	4249	2655	1139	714	2678
45.00	14715	5270	2796	1092	577	4587
55.00	4707	7477	2734	1018	481	2714
65.00	1415	1189	951	316	364	857
75.00	561	158	138	123	530	416
85.00	52	21	20	19	18	17
90.00	5	3	2	1	1	

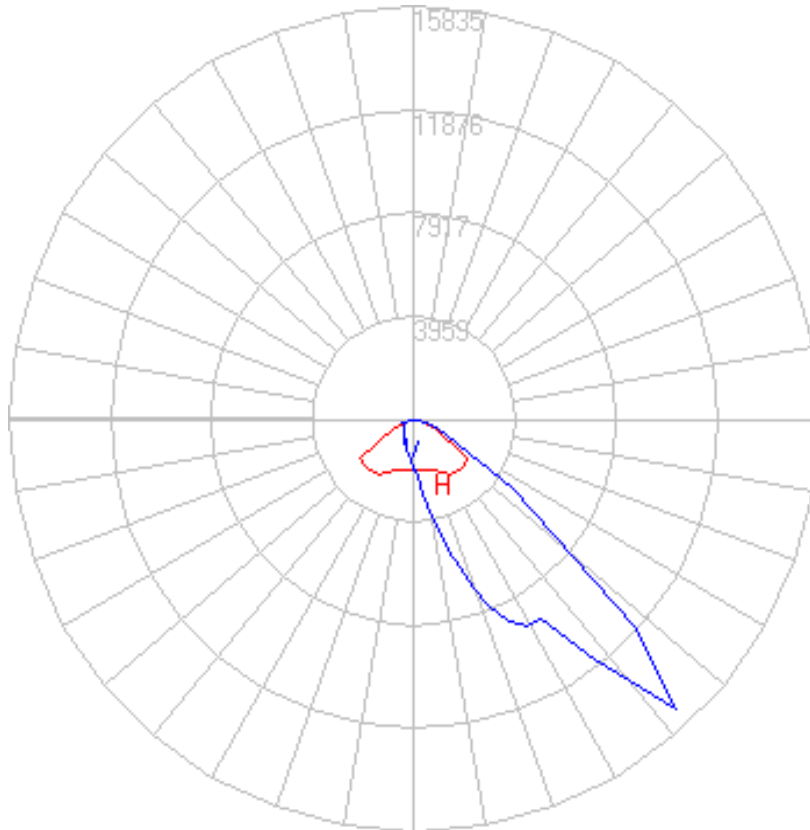
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	2423.78	20.00	20.00
0 to 40	4636.84	38.26	38.26
0 to 60	10960.77	90.45	90.45
0 to 90	12118.34	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	12118.34	100.00	100.00

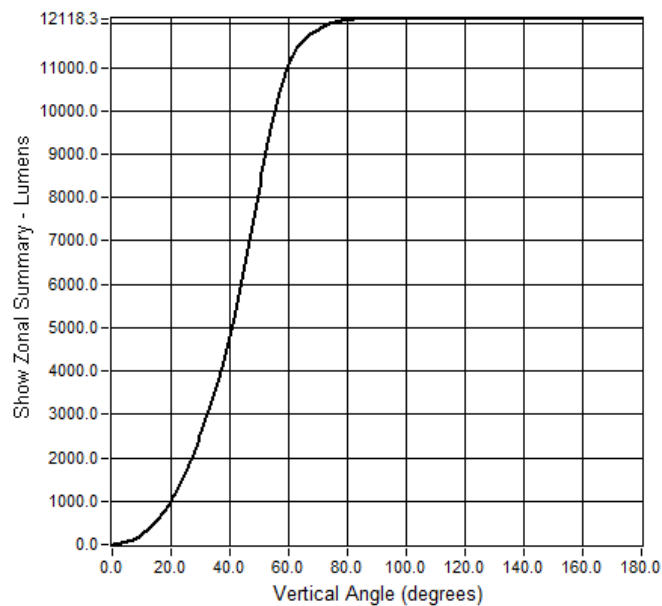
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



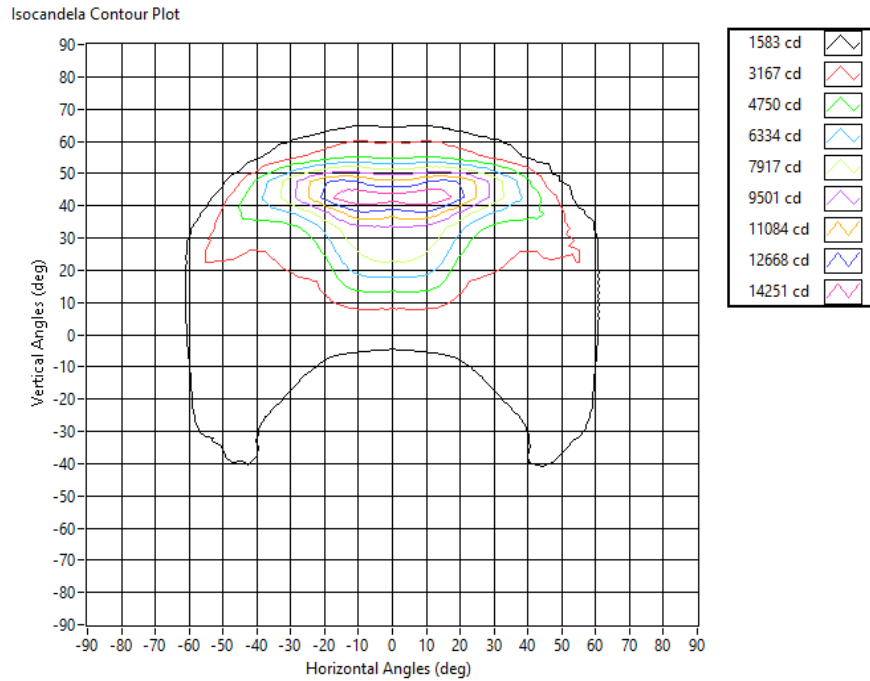
Zonal Flux Graph



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	5.99	8.31	477.9
4	11.98	16.62	119.5
6	17.98	24.93	53.1
8	23.97	33.25	29.9
10	29.96	41.56	19.1
12	35.95	49.87	13.3
14	41.94	58.18	9.8
16	47.93	66.49	7.5
18	53.93	74.80	5.9
20	59.92	83.11	4.8

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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