

Test Report

Report Number: L21074

Date: May 11, 2021

Issued by:

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

Test of one F2 - Flood Light

Unit manufacturer: Dialight Corporation

Unit model number: F2x-7FL2-Nxxx-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 30, 2021 through April 30, 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: L21074

Manufacturer: Dialight Corporation

Product Name: Glass Window, Asym Type IV, 70 CRI NW, 120-277V, 60K

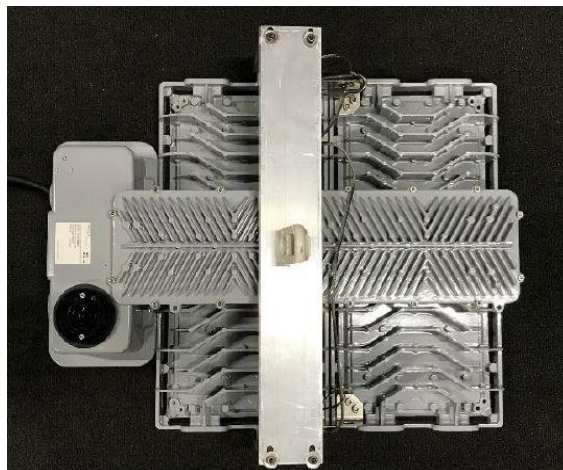
Description: F2 - Flood Light

Model Number: F2x-7FL2-Nxxx-xxx

Report Summary

Sample number L21074
Dialight unit model number F2x-7FL2-Nxxx-xxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	55442 (lumens)	55818 (lumens)
Electrical Power:	492.9 (W)	492.3 (W)
Luminous Efficacy:	112.5 (lumens/W)	113.4 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 492.9 (W)
Power Factor (120VAC): 0.996108
Current ATHD % (120VAC): 5.05113
Input Power (277VAC): 474.9 (W)
Power Factor (277VAC): 0.9705
Current ATHD % (277VAC): 9.99

Color Measurements:

Correlated Color Temperature (CCT): 4230
Color Rendering Index (CRI): 72.4688
Chromaticity Coordinate (x): 0.371
Chromaticity Coordinate (y): 0.372
Chromaticity Coordinate (u'): 0.221
Chromaticity Coordinate (v'): 0.332
DUV: 0.0004

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21074.

Dialight unit model number F2x-7FL2-Nxxx-xxx

Test Conditions:

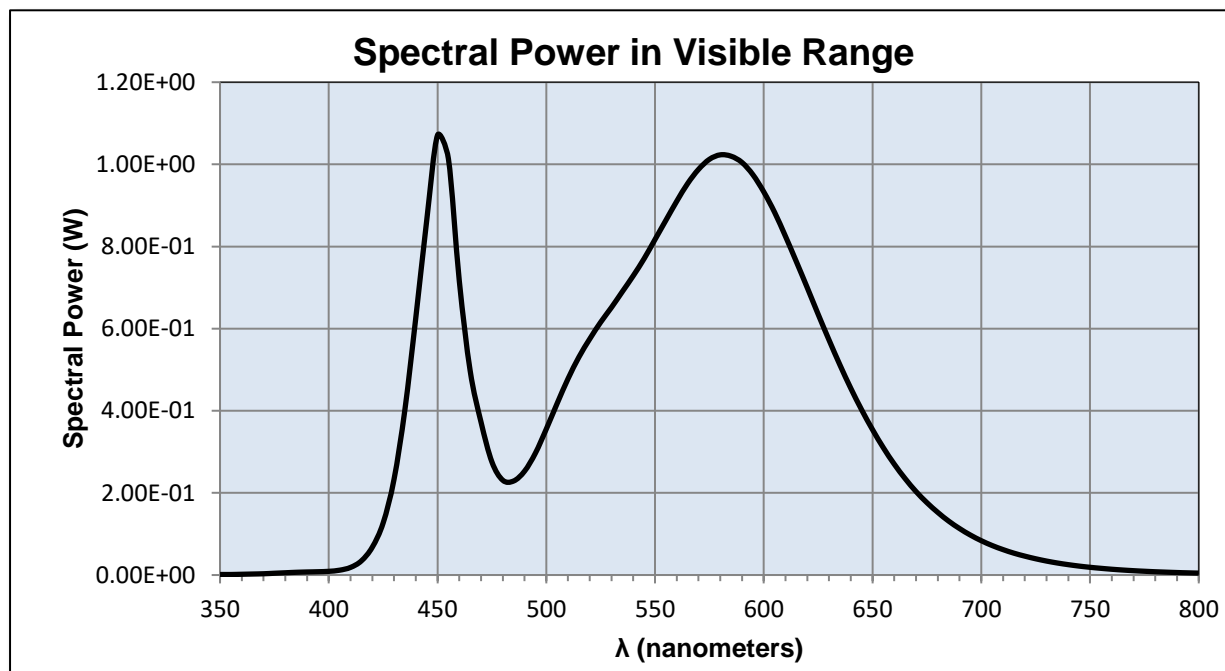
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 4.12334 (A)
Input Power: 492.9 (W)
Input Power Factor: 0.996108
Current ATHD: 5.05113 (%)

Photometric measurements:

Luminous Flux: 55442.2 (lumens)
Luminous Efficacy: 112.5 (lumens/W)
Correlated Color Temperature (CCT): 4230 (K)
CRI -Ra: 72.4688
CRI -R9: -38.8919
DUV: 0.0004
CIE Coordinate (x): 0.371
CIE Coordinate (y): 0.372
CIE Coordinate (u'): 0.221
CIE Coordinate (v'): 0.332
TM30_Rf: 72.5
TM30_Rg: 91.3
TM30_Rcs_hue1: -18.71 %



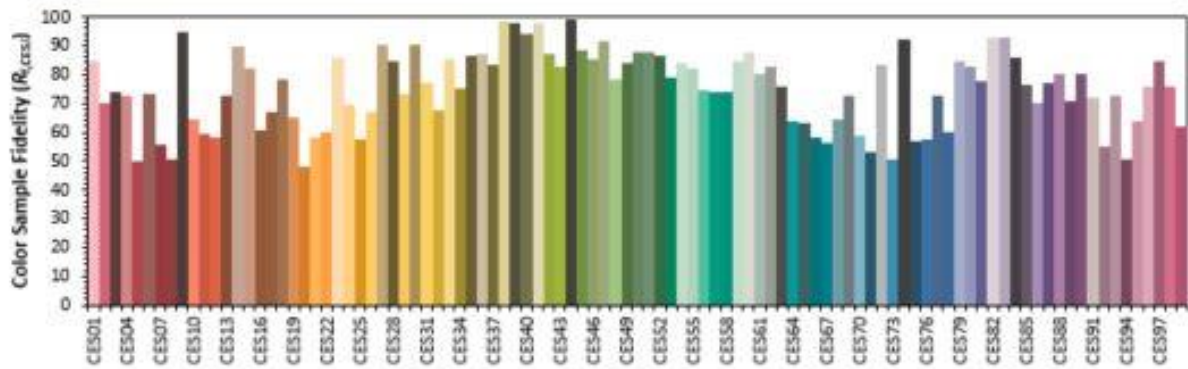
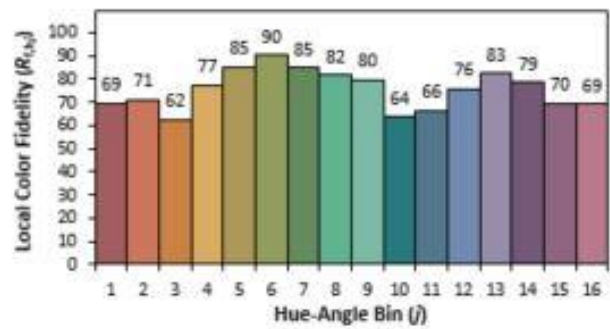
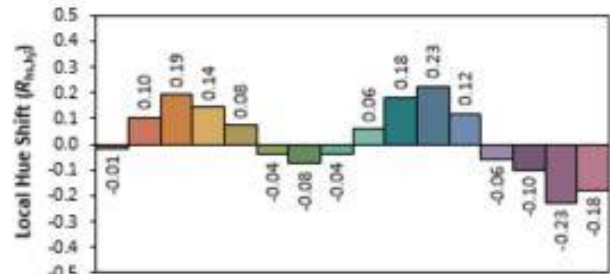
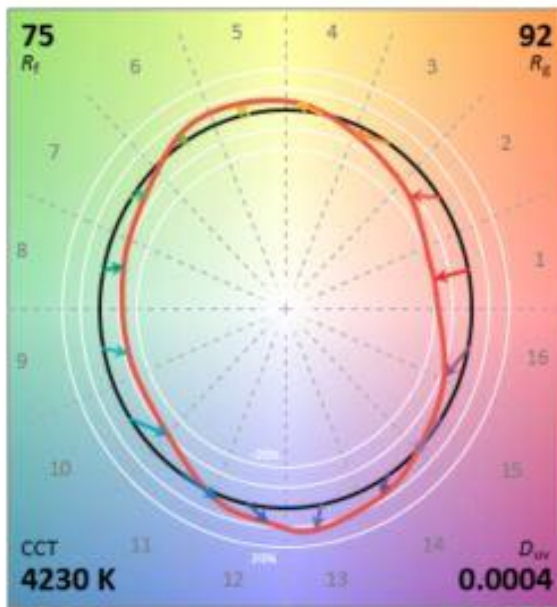
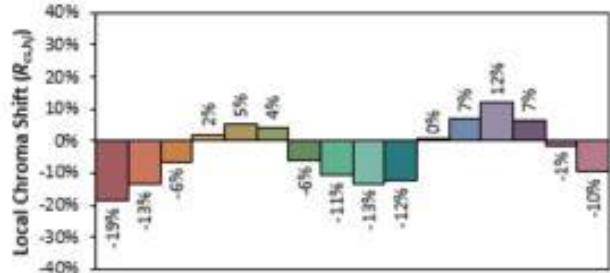
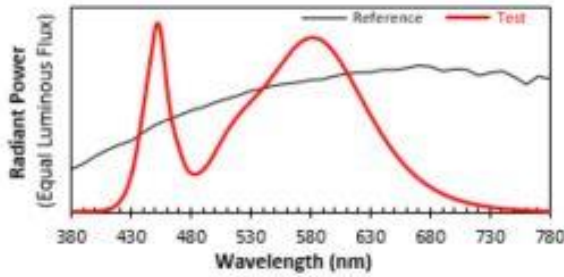
Test Results: Integrating Sphere

Results continued from previous page.

Tabulated Spectral Power in Visible Range:

λ (nm)	(W/nm)	λ (nm)	(W/nm)	λ (nm)	(W/nm)	λ (nm)	(W/nm)
350	0.00135	490	0.25273	630	0.57229	770	0.01055
355	0.00130	495	0.29672	635	0.51174	775	0.00917
360	0.00184	500	0.35534	640	0.45469	780	0.00800
365	0.00245	505	0.41791	645	0.40231	785	0.00699
370	0.00307	510	0.47799	650	0.35403	790	0.00605
375	0.00432	515	0.53059	655	0.30974	795	0.00529
380	0.00551	520	0.57495	660	0.26996	800	0.00463
385	0.00666	525	0.61552	665	0.23473		
390	0.00743	530	0.65175	670	0.20337		
395	0.00802	535	0.69029	675	0.17630		
400	0.00903	540	0.72879	680	0.15250		
405	0.01179	545	0.77050	685	0.13132		
410	0.01856	550	0.81706	690	0.11320		
415	0.03449	555	0.86384	695	0.09728		
420	0.06772	560	0.91035	700	0.08364		
425	0.12686	565	0.95330	705	0.07187		
430	0.23311	570	0.98775	710	0.06193		
435	0.40278	575	1.01221	715	0.05324		
440	0.62579	580	1.02314	720	0.04600		
445	0.86200	585	1.01977	725	0.03961		
450	1.07102	590	1.00452	730	0.03402		
455	1.01365	595	0.97480	735	0.02927		
460	0.71641	600	0.93293	740	0.02524		
465	0.49766	605	0.88291	745	0.02176		
470	0.37242	610	0.82442	750	0.01883		
475	0.27544	615	0.76272	755	0.01636		
480	0.23078	620	0.69966	760	0.01410		
485	0.22901	625	0.63504	765	0.01221		

IES TM-30-18 Color Rendition Report



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

x 0.3711
 y 0.3715
 u' 0.2210
 v' 0.4978

CIE 13.3-1995
(CRI)
 R_a 72
 R_g -39

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21074.
Dialight unit model number F2x-7FL2-Nxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 4.1209 (A)
Input Power: 492.3 (W)
Power Factor: 0.9958

Photometric measurements:

Absolute Luminous Flux: 55818.3 (lumens)
Luminous Efficacy: 113.4 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	16382	16359	16319	16429	16382	
5.00	16405	16505	16396	16823	16882	1684
15.00	19779	17105	13411	16296	17371	4950
25.00	26166	17694	10557	14632	16282	8621
35.00	28748	15791	12350	13029	23933	13575
45.00	41039	18371	13234	17776	12230	17672
55.00	15236	22806	12513	11986	4298	10782
65.00	5050	5453	4970	2060	2356	3846
75.00	2413	960	789	595	1697	1669
85.00	524	178	146	73	31	129
90.00	49	48	23	3	4	

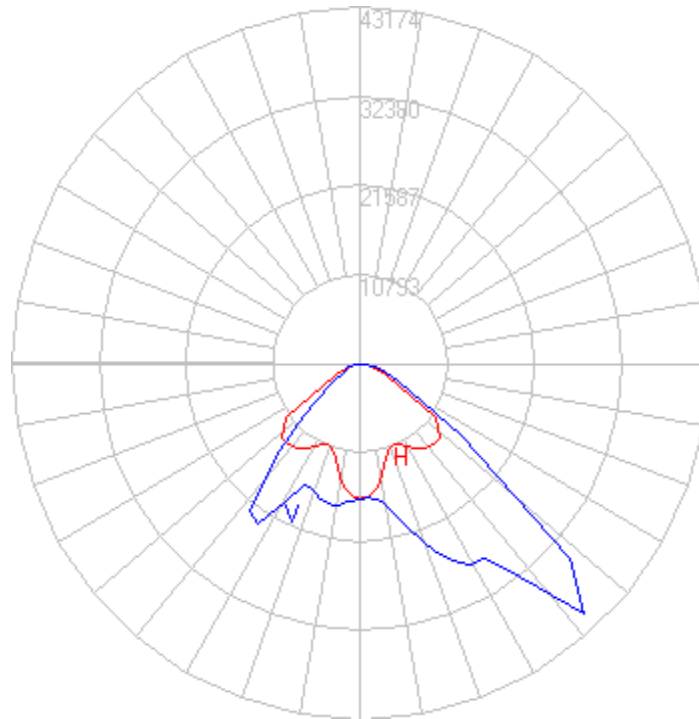
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	13243.69	23.73	23.73
0 to 40	24500.18	43.89	43.89
0 to 60	50932.60	91.25	91.25
0 to 90	55818.27	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	55818.27	100.00	100.00

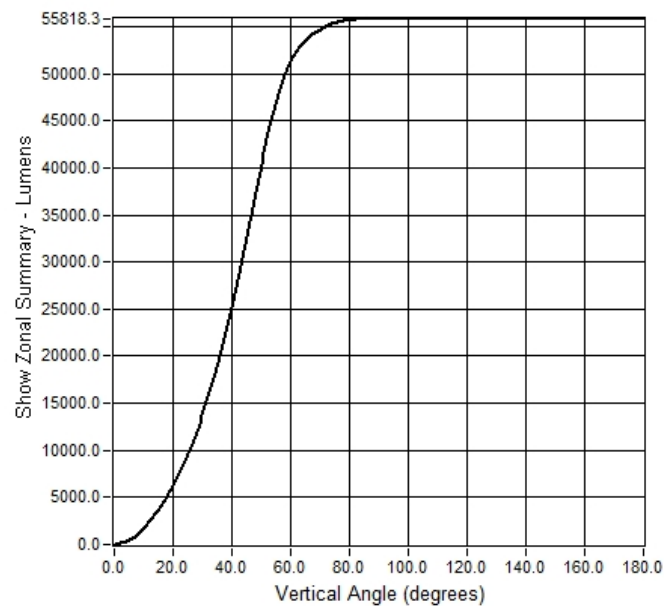
Test Results: Goniometer

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Polar Plot:



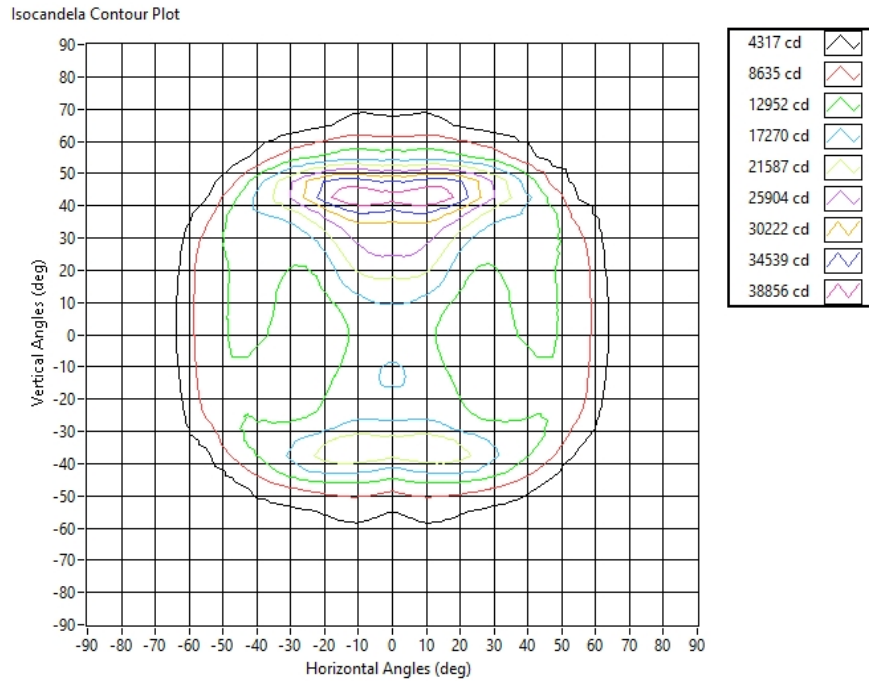
Zonal Flux Graph



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	5.46	7.10	4093.7
4	10.93	14.20	1023.4
6	16.39	21.30	454.9
8	21.85	28.40	255.9
10	27.32	35.50	163.7
12	32.78	42.60	113.7
14	38.25	49.70	83.5
16	43.71	56.81	64.0
18	49.17	63.91	50.5
20	54.64	71.01	40.9

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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 Lighting Division

Test Report Reviewed and Approved By:

Vishnu Shastry
 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory