

Test Report

Report Number: L21021

Date: Apr 5, 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-76B2-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: February 25, 2021 through February 26, 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: L21021
Manufacturer: Dialight Corporation
Product Name: Glass Window, NEMA 6, 70 CRI CW, 120-277V, 60K
Description: F2 - Flood Light
Model Number: F2x-76B2-Nxxx-xxx

Report Summary

Sample number L21021
Dialight unit model number F2x-76B2-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:	61327 (lumens)	61514 (lumens)
Electrical Power:	502.5 (W)	503.2 (W)
Luminous Efficacy:	122 (lumens/W)	122.2 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 502.5 (W)
Power Factor (120VAC): 0.99596
Current ATHD % (120VAC): 4.86396
Input Power (277VAC): 481.3 (W)
Power Factor (277VAC): 0.9665
Current ATHD % (277VAC): 9.57

Color Measurements:

Correlated Color Temperature (CCT): 5210
Color Rendering Index (CRI): 71.5939
Chromaticity Coordinate (x): 0.339
Chromaticity Coordinate (y): 0.347
Chromaticity Coordinate (u'): 0.209
Chromaticity Coordinate (v'): 0.321
DUV: 0.0001

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21021.

Dialight unit model number F2x-76B2-Nxxx-xxx

Test Conditions:

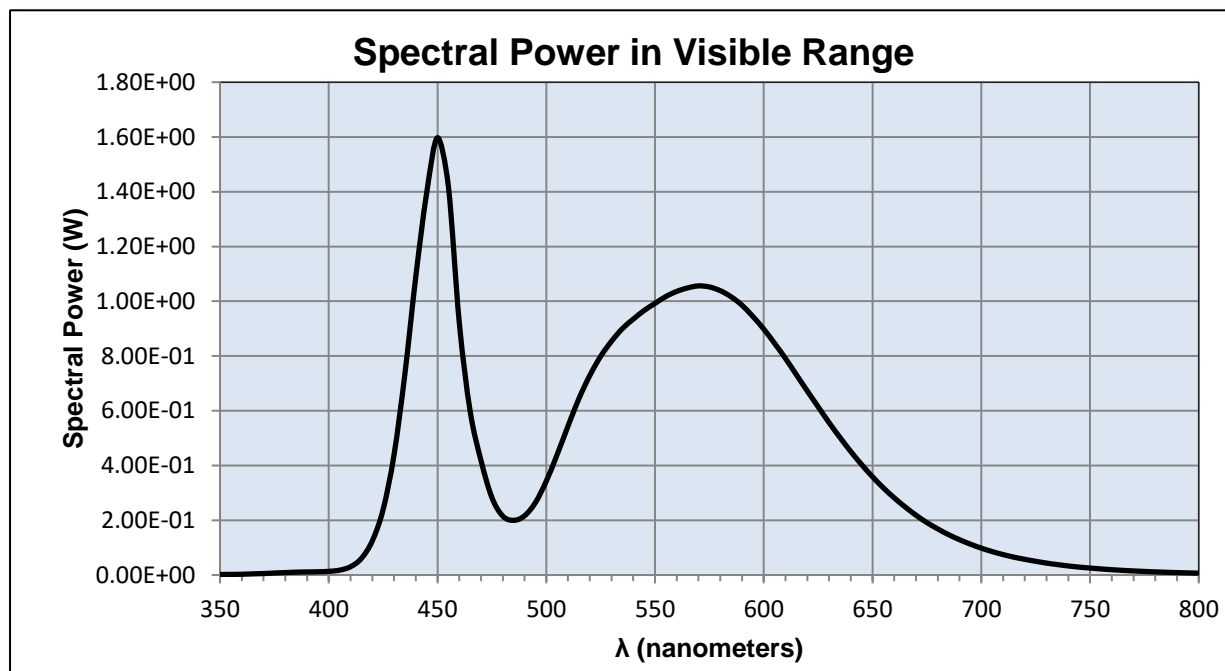
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 4.19671 (A)
Input Power: 502.5 (W)
Input Power Factor: 0.99596
Current ATHD: 4.86396 (%)

Photometric measurements:

Luminous Flux: 61327.4 (lumens)
Luminous Efficacy: 122.0 (lumens/W)
Correlated Color Temperature (CCT): 5210 (K)
CRI -Ra: 71.5939
CRI -R9: -31.9934
DUV: 0.0001
CIE Coordinate (x): 0.339
CIE Coordinate (y): 0.347
CIE Coordinate (u'): 0.209
CIE Coordinate (v'): 0.321
TM30_Rf: 69.1
TM30_Rg: 93.5
TM30_Rcs_hue1: -18.32 %



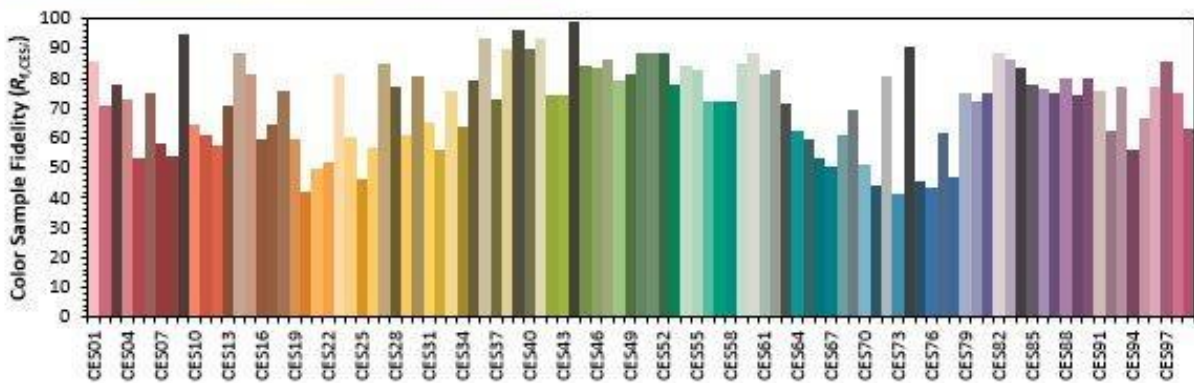
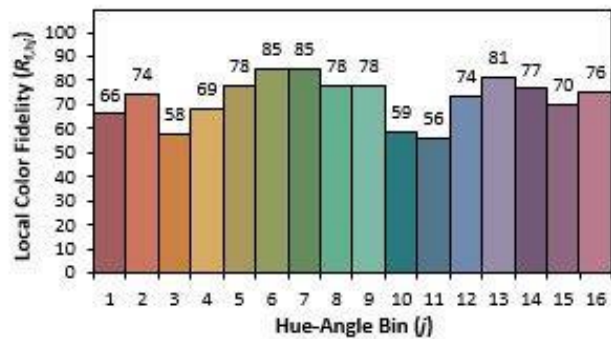
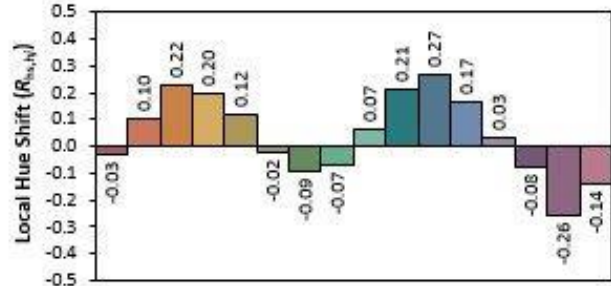
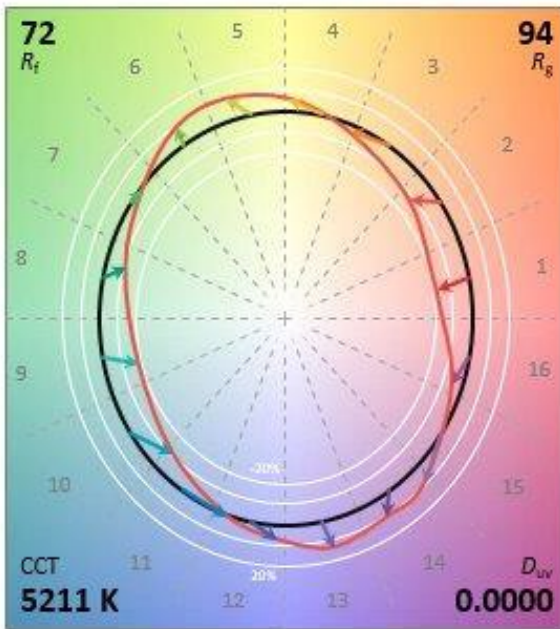
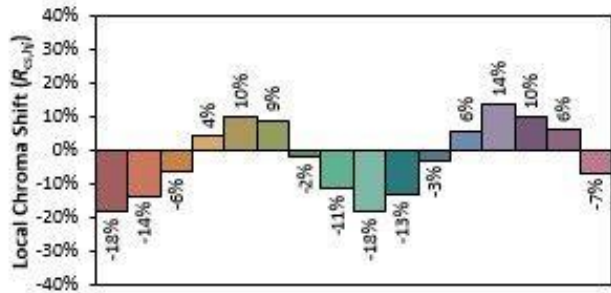
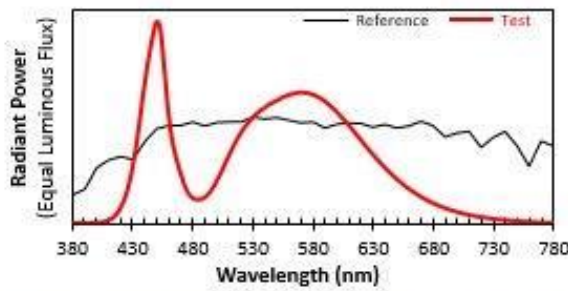
Test Results: Integrating Sphere

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	0.00203	490	0.21627	630	0.55678	770	0.01493
355	0.00228	495	0.26449	635	0.50278	775	0.01310
360	0.00289	500	0.34290	640	0.45101	780	0.01146
365	0.00423	505	0.43997	645	0.40327	785	0.01008
370	0.00544	510	0.54434	650	0.35893	790	0.00887
375	0.00730	515	0.64403	655	0.31826	795	0.00774
380	0.00896	520	0.72866	660	0.28162	800	0.00686
385	0.01047	525	0.79874	665	0.24864		
390	0.01131	530	0.85392	670	0.21839		
395	0.01193	535	0.90021	675	0.19159		
400	0.01341	540	0.93453	680	0.16843		
405	0.01784	545	0.96628	685	0.14731		
410	0.03035	550	0.99212	690	0.12901		
415	0.06070	555	1.01738	695	0.11275		
420	0.12457	560	1.03600	700	0.09827		
425	0.23989	565	1.04871	705	0.08568		
430	0.43913	570	1.05597	710	0.07480		
435	0.73464	575	1.05213	715	0.06527		
440	1.08917	580	1.03861	720	0.05730		
445	1.39524	585	1.01616	725	0.05014		
450	1.59752	590	0.98531	730	0.04360		
455	1.41836	595	0.94421	735	0.03810		
460	0.92156	600	0.89830	740	0.03313		
465	0.59861	605	0.84588	745	0.02892		
470	0.41805	610	0.79078	750	0.02545		
475	0.28297	615	0.73141	755	0.02225		
480	0.21529	620	0.67244	760	0.01944		
485	0.19969	625	0.61451	765	0.01701		

IES TM-30-18 Color Rendition Report



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

x 0.3394
 y 0.3470
 u' 0.2093
 v' 0.4816

CIE 13.3-1995	
(CRI)	
R_a	72
R_g	-32

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21021.
Dialight unit model number F2x-76B2-Nxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 4.2132 (A)
Input Power: 503.2 (W)
Power Factor: 0.9958

Photometric measurements:

Absolute Luminous Flux: 61513.7 (lumens)
Luminous Efficacy: 122.2 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	38689	38689	38689	38689	38689	
5.00	37977	38261	38524	38505	37940	3872
15.00	30646	31428	30923	31460	30387	8731
25.00	26286	26444	26319	26372	26156	12164
35.00	23027	23244	23138	23288	22912	14489
45.00	17525	17904	18143	18266	17668	13775
55.00	7697	8938	9923	10142	8836	7888
65.00	1425	1638	1818	1850	1515	1570
75.00	484	538	661	621	536	578
85.00	42	54	89	91	65	34
90.00	0	0	0	0	0	

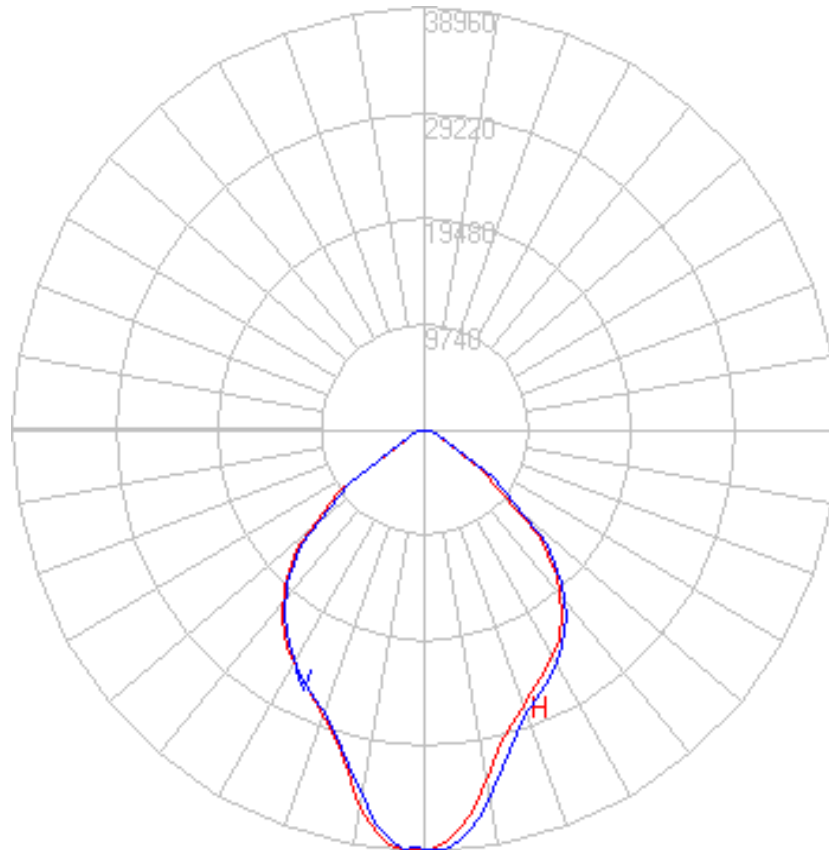
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	24167.39	39.29	39.29
0 to 40	38453.94	62.51	62.51
0 to 60	59145.51	96.15	96.15
0 to 90	61513.72	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	61513.72	100.00	100.00

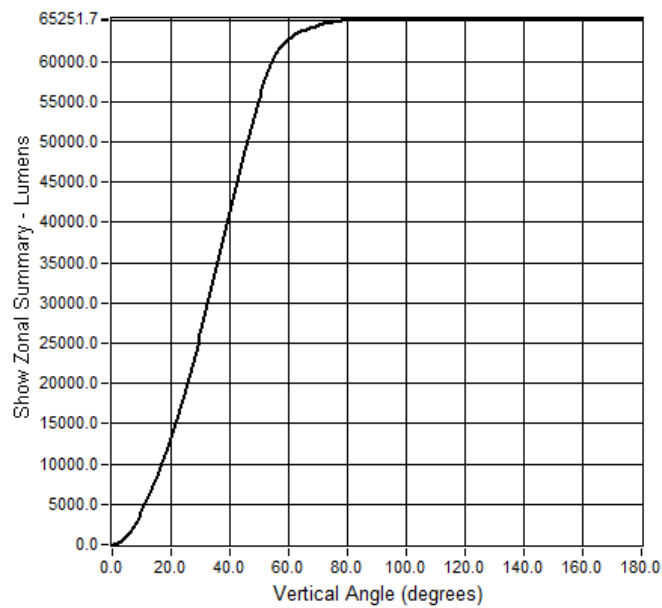
Test Results: Goniometer

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Polar Plot:



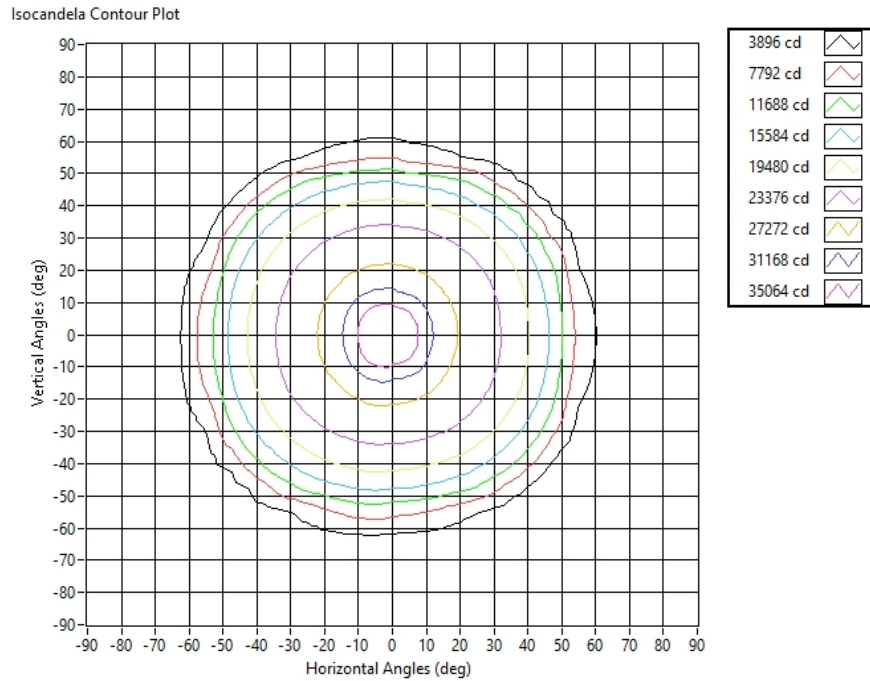
Zonal Flux Graph



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	3.68	3.49	9672.2
4	7.37	6.98	2418.0
6	11.05	10.46	1074.7
8	14.74	13.95	604.5
10	18.42	17.44	386.9
12	22.11	20.93	268.7
14	25.79	24.42	197.4
16	29.48	27.91	151.1
18	33.16	31.39	119.4
20	36.84	34.88	96.7

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.

Test Report Issued By:

Richard Huegi
 Dialight Optics Laboratory
 Senior Optical Engineering Technician
 Lighting Division

Test Report Reviewed and Approved By:

Vishnu Shastry
 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory