

Test Report

Report Number: L21025

Date: Apr 7, 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-74B2-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: March 4, 2021 through March 9, 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

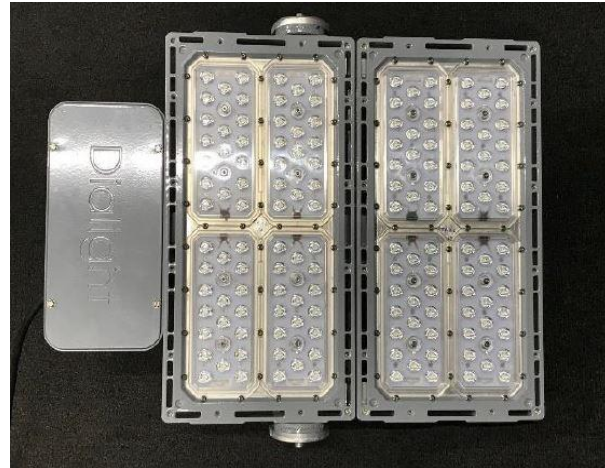
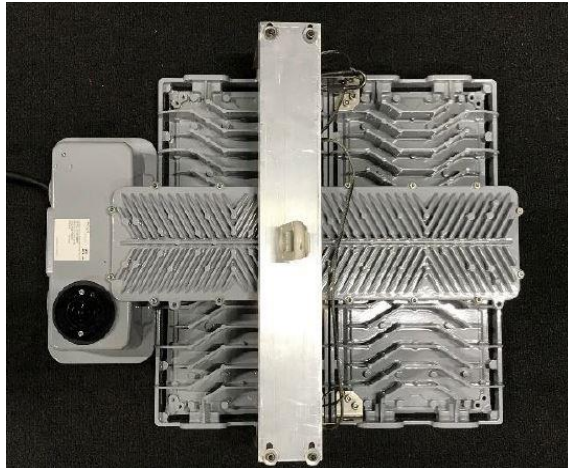
Description of sample:

Sample Number: L21025
Manufacturer: Dialight Corporation
Product Name: Glass Window, NEMA 4, 70 CRI CW, 120-277V, 60K
Description: F2 - Flood Light
Model Number: F2x-74B2-Nxxx-xxx

Report Summary

Sample number L21025
Dialight unit model number F2x-74B2-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:	61986 (lumens)	63662 (lumens)
Electrical Power:	503.1 (W)	501.5 (W)
Luminous Efficacy:	123.2 (lumens/W)	126.9 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 503.1 (W)
Power Factor (120VAC): 0.995965
Current ATHD % (120VAC): 4.83558
Input Power (277VAC): 482.6 (W)
Power Factor (277VAC): 0.9667
Current ATHD % (277VAC): 9.526

Color Measurements:

Correlated Color Temperature (CCT): 5120
Color Rendering Index (CRI): 71.172
Chromaticity Coordinate (x): 0.342
Chromaticity Coordinate (y): 0.350
Chromaticity Coordinate (u'): 0.210
Chromaticity Coordinate (v'): 0.322
DUV: 0.0007

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21025.

Dialight unit model number F2x-74B2-Nxxx-xxx

Test Conditions:

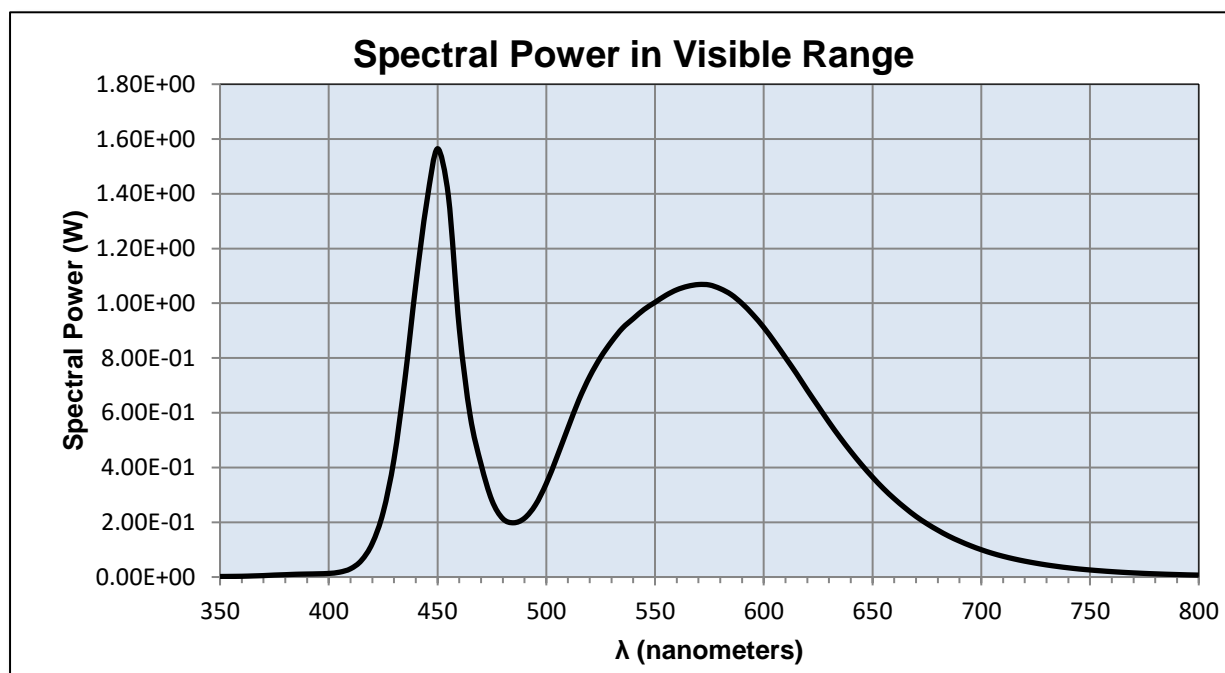
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120.516 (VAC)
Input Current: 4.1915 (A)
Input Power: 503.1 (W)
Input Power Factor: 0.995965
Current ATHD: 4.83558 (%)

Photometric measurements:

Luminous Flux: 61985.95 (lumens)
Luminous Efficacy: 123.2 (lumens/W)
Correlated Color Temperature (CCT): 5120 (K)
CRI -Ra: 71.172
CRI -R9: -34.2056
DUV: 0.0007
CIE Coordinate (x): 0.342
CIE Coordinate (y): 0.350
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.322
TM30_Rf: 69.1
TM30_Rg: 93.2
TM30_Rcs_hue1: -18.50 %



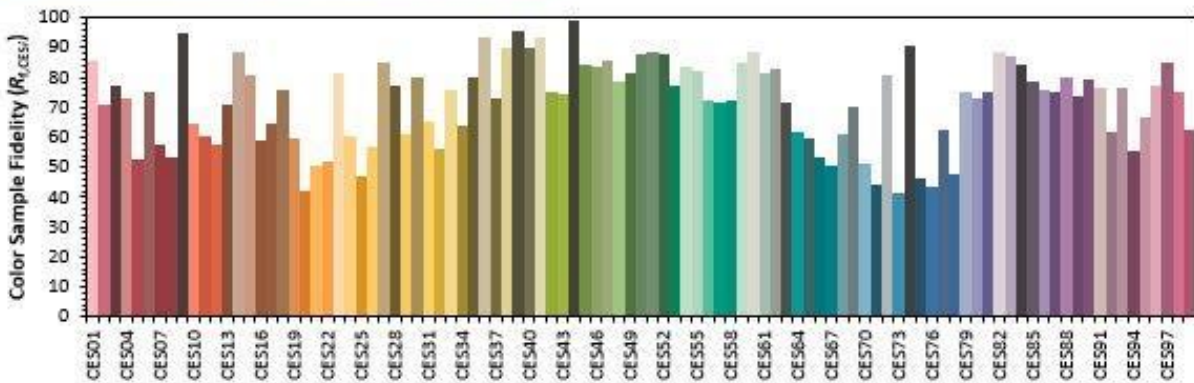
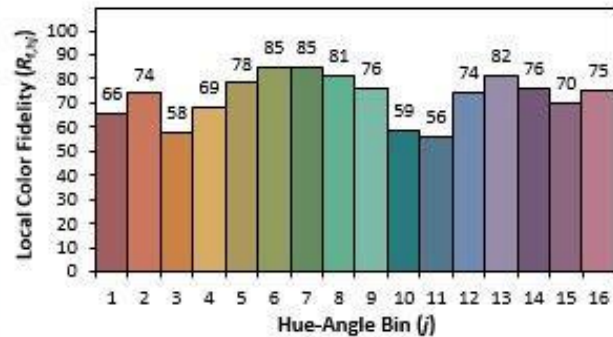
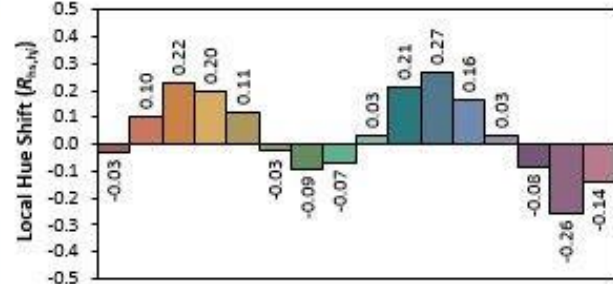
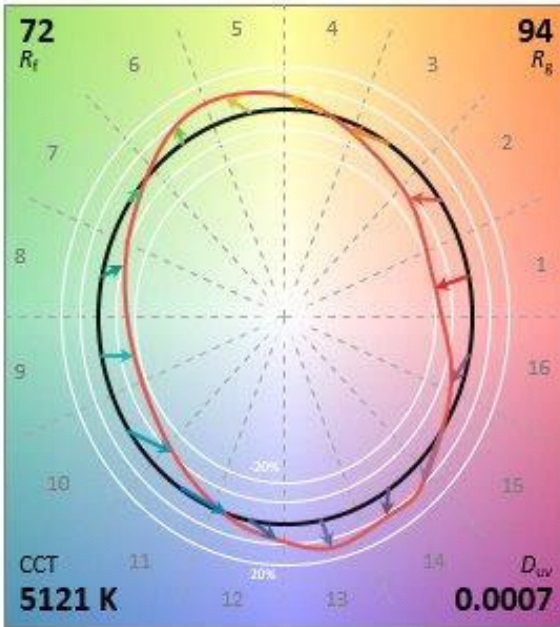
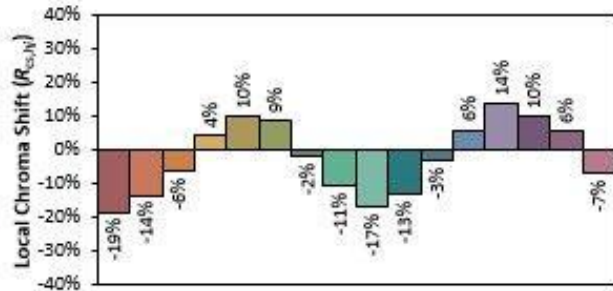
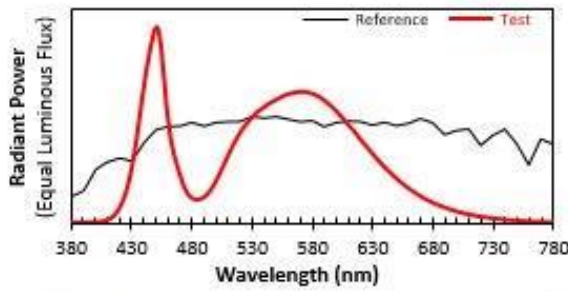
Test Results: Integrating Sphere

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	0.00192	490	0.21495	630	0.56534	770	0.01510
355	0.00229	495	0.26316	635	0.51024	775	0.01324
360	0.00284	500	0.34133	640	0.45845	780	0.01165
365	0.00391	505	0.44049	645	0.40991	785	0.01021
370	0.00524	510	0.54528	650	0.36490	790	0.00899
375	0.00713	515	0.64698	655	0.32327	795	0.00788
380	0.00858	520	0.73260	660	0.28601	800	0.00694
385	0.01008	525	0.80259	665	0.25231		
390	0.01093	530	0.85976	670	0.22145		
395	0.01178	535	0.90882	675	0.19482		
400	0.01315	540	0.94379	680	0.17116		
405	0.01784	545	0.97735	685	0.14955		
410	0.03023	550	1.00336	690	0.13114		
415	0.06041	555	1.02897	695	0.11448		
420	0.12280	560	1.04916	700	0.09977		
425	0.23638	565	1.06195	705	0.08688		
430	0.43084	570	1.06832	710	0.07582		
435	0.72194	575	1.06678	715	0.06631		
440	1.06711	580	1.05322	720	0.05795		
445	1.36669	585	1.03171	725	0.05074		
450	1.56447	590	0.99898	730	0.04423		
455	1.39078	595	0.95832	735	0.03859		
460	0.90778	600	0.91161	740	0.03363		
465	0.59022	605	0.85802	745	0.02933		
470	0.41224	610	0.80122	750	0.02578		
475	0.28009	615	0.74349	755	0.02255		
480	0.21325	620	0.68244	760	0.01972		
485	0.19817	625	0.62385	765	0.01722		

IES TM-30-18 Color Rendition Report



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

x 0.3419
 y 0.3503
 u' 0.2097
 v' 0.4836

CIE 13.3-1995 (CRI)	
R_a	71
R_g	-34

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21025.
Dialight unit model number F2x-74B2-Nxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 4.2108 (A)
Input Power: 501.5 (W)
Power Factor: 0.9958

Photometric measurements:

Absolute Luminous Flux: 63662.4 (lumens)
Luminous Efficacy: 126.9 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	164676	164898	164533	166357	164676	
5.00	161153	161927	159105	157208	148808	15939
15.00	112860	119133	109721	111805	98732	30814
25.00	46553	47099	40535	34065	17214	16265
35.00	4481	3760	2941	3264	3581	2365
45.00	2251	1785	1698	1657	1875	1496
55.00	1469	1296	1239	1221	1278	1191
65.00	1032	992	951	920	857	941
75.00	495	504	501	432	326	461
85.00	62	70	78	46	17	28
90.00	7	9	10	5	2	

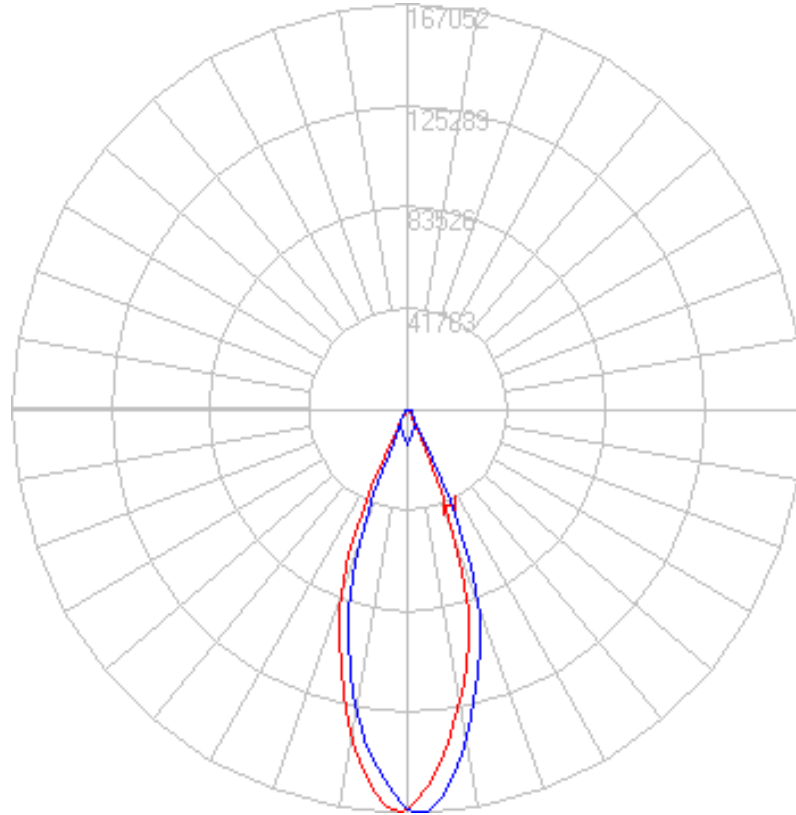
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	57516.57	90.35	90.35
0 to 40	59746.87	93.85	93.85
0 to 60	62269.16	97.81	97.81
0 to 90	63662.43	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	63662.43	100.00	100.00

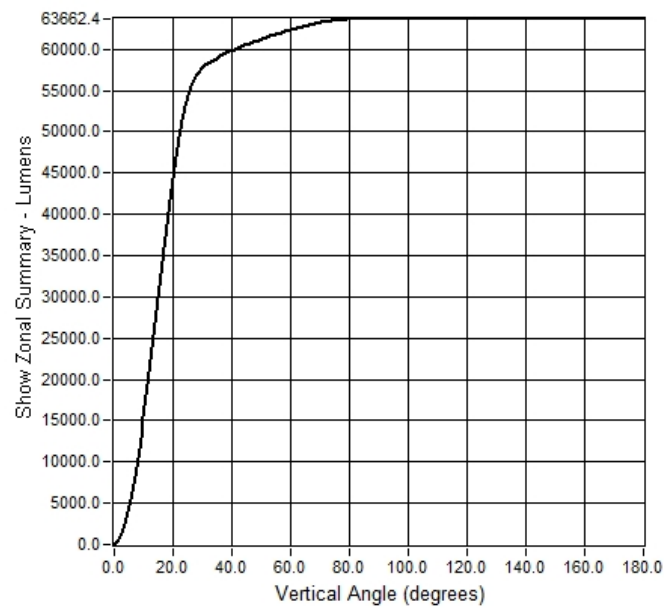
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



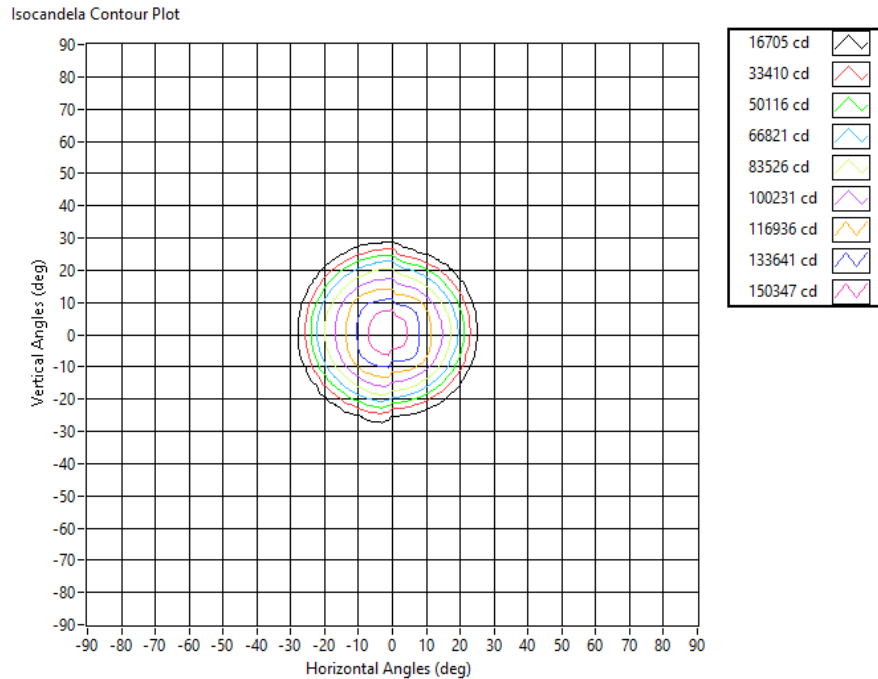
Zonal Flux Graph



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	1.37	1.39	41328.7
4	2.73	2.78	10332.2
6	4.10	4.17	4592.1
8	5.46	5.56	2583.0
10	6.83	6.95	1653.1
12	8.19	8.34	1148.0
14	9.56	9.73	843.4
16	10.92	11.12	645.8
18	12.29	12.51	510.2
20	13.65	13.90	413.3

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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Test Report Reviewed and Approved By:

Vishnu Shastry
 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory