

Test Report

Report Number: L21022

Date: Apr 6, 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-46B2-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 26, 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

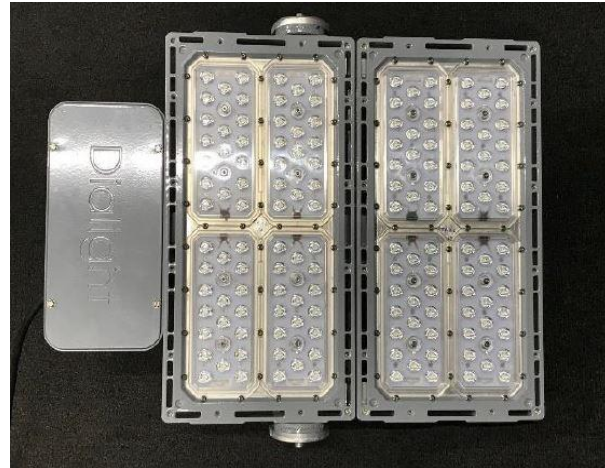
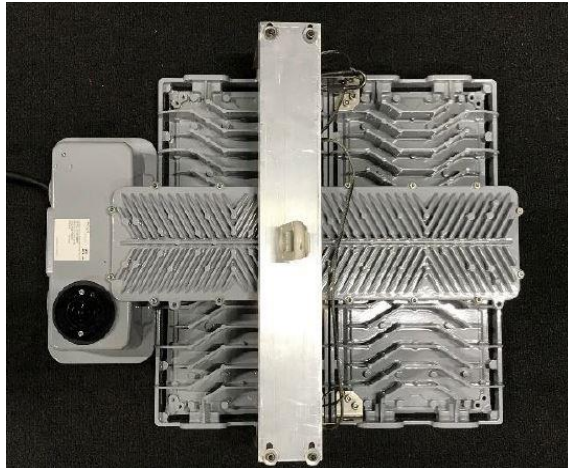
Description of sample:

Sample Number: L21022
Manufacturer: Dialight Corporation
Product Name: PC Window, NEMA 6, 70 CRI CW, 120-277V, 60K
Description: F2 - Flood Light
Model Number: F2x-46B2-Nxxx-xxx

Report Summary

Sample number L21022
Dialight unit model number F2x-46B2-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:	57756 (lumens)	58085 (lumens)
Electrical Power:	502.0 (W)	501.4 (W)
Luminous Efficacy:	115.1 (lumens/W)	115.9 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 502.0 (W)
 Power Factor (120VAC): 0.995981
 Current ATHD % (120VAC): 4.86266
 Input Power (277VAC): 481.4 (W)
 Power Factor (277VAC): 0.9666
 Current ATHD % (277VAC): 9.549

Color Measurements:

Correlated Color Temperature (CCT): 5245
 Color Rendering Index (CRI): 72.5795
 Chromaticity Coordinate (x): 0.339
 Chromaticity Coordinate (y): 0.345
 Chromaticity Coordinate (u'): 0.210
 Chromaticity Coordinate (v'): 0.320
 DUV: -0.0006

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21022.

Dialight unit model number F2x-46B2-Nxxx-xxx

Test Conditions:

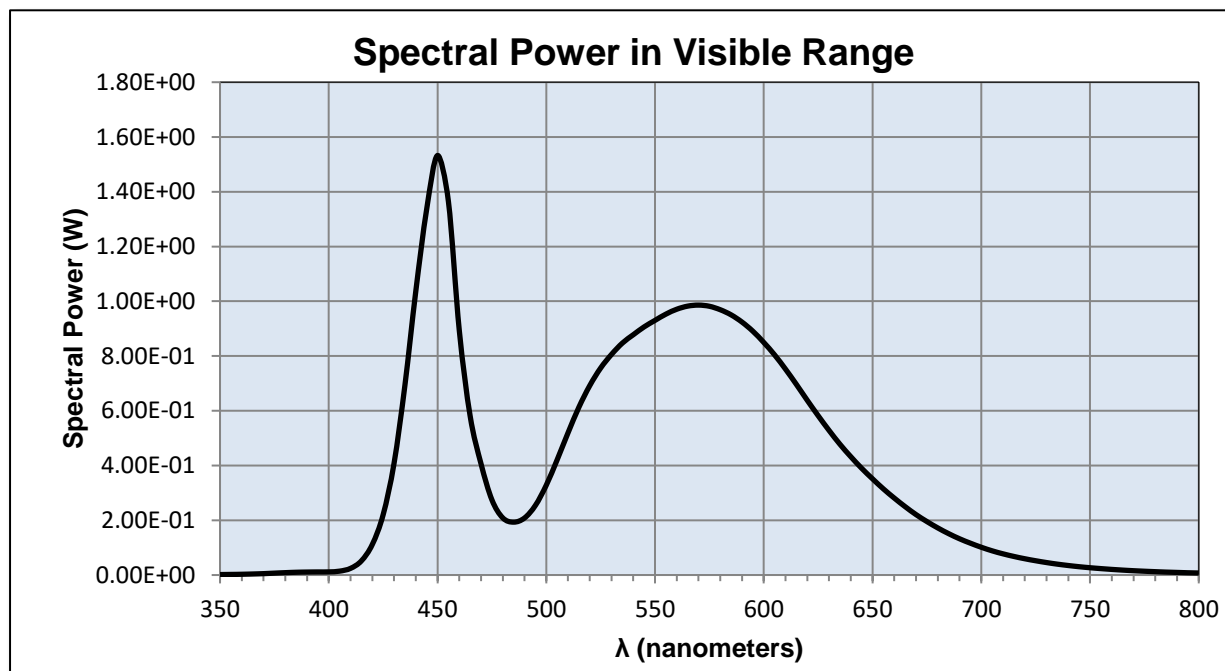
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
 Input Current: 4.19789 (A)
 Input Power: 502.0 (W)
 Input Power Factor: 0.995981
 Current ATHD: 4.86266 (%)

Photometric measurements:

Luminous Flux: 57756.23 (lumens)
 Luminous Efficacy: 115.1 (lumens/W)
 Correlated Color Temperature (CCT): 5245 (K)
 CRI -Ra: 72.5795
 CRI -R9: -26.7316
 DUV: -0.0006
 CIE Coordinate (x): 0.339
 CIE Coordinate (y): 0.345
 CIE Coordinate (u'): 0.210
 CIE Coordinate (v'): 0.320
 TM30_Rf: 69.7
 TM30_Rg: 94.0
 TM30_Rcs_hue1: -17.66 %



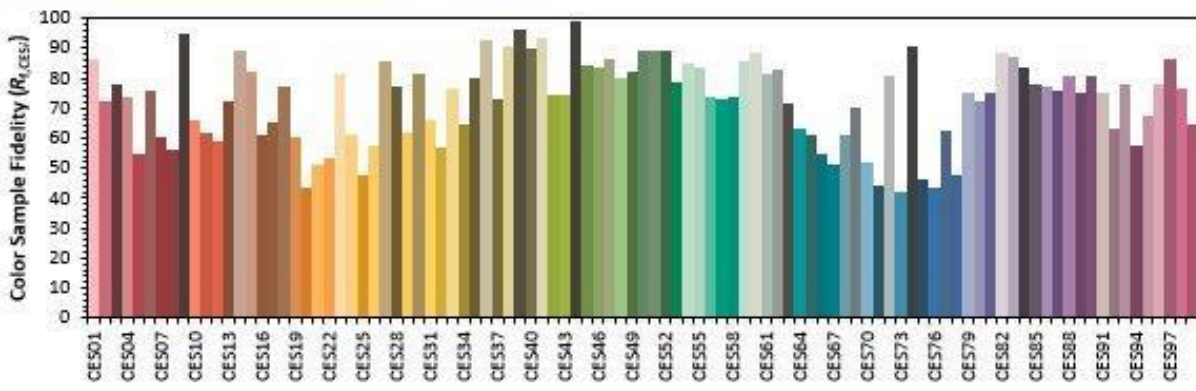
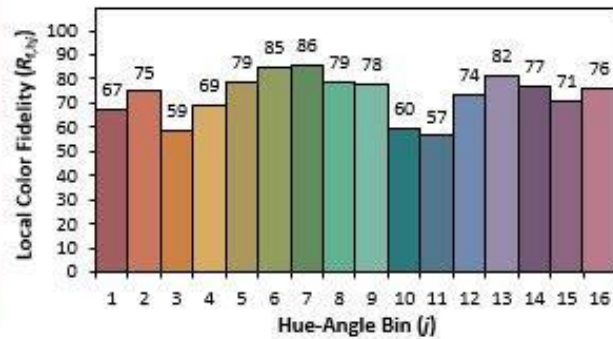
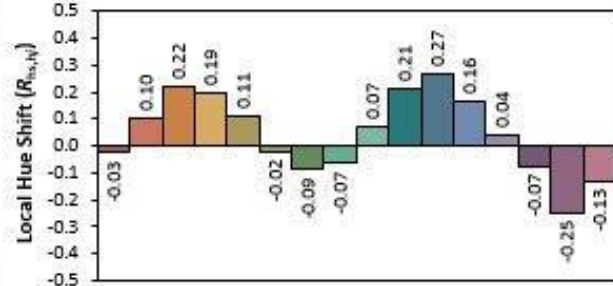
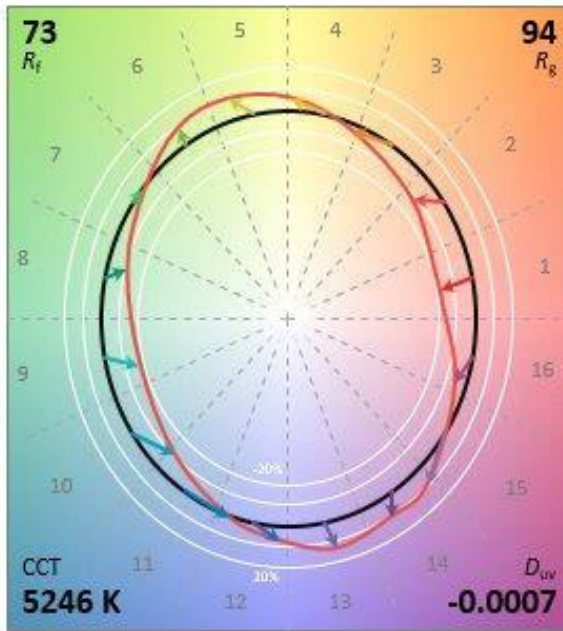
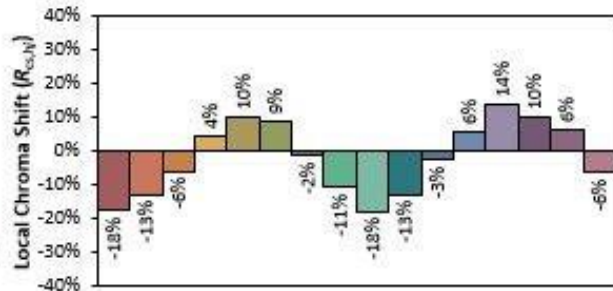
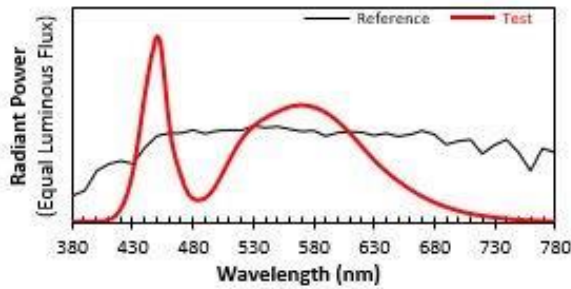
Test Results: Integrating Sphere

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	0.00176	490	0.20835	630	0.52835	770	0.01575
355	0.00216	495	0.25425	635	0.47782	775	0.01387
360	0.00281	500	0.32814	640	0.43228	780	0.01222
365	0.00375	505	0.42096	645	0.38991	785	0.01073
370	0.00508	510	0.51949	650	0.35137	790	0.00951
375	0.00690	515	0.61288	655	0.31457	795	0.00830
380	0.00866	520	0.69191	660	0.28108	800	0.00736
385	0.01009	525	0.75604	665	0.24970		
390	0.01084	530	0.80583	670	0.22079		
395	0.01123	535	0.84726	675	0.19539		
400	0.01146	540	0.87761	680	0.17209		
405	0.01416	545	0.90635	685	0.15115		
410	0.02430	550	0.93013	690	0.13246		
415	0.05170	555	0.95293	695	0.11622		
420	0.11135	560	0.97081	700	0.10150		
425	0.22044	565	0.98211	705	0.08837		
430	0.40770	570	0.98581	710	0.07737		
435	0.69296	575	0.98160	715	0.06781		
440	1.03582	580	0.96895	720	0.05944		
445	1.33553	585	0.95016	725	0.05214		
450	1.53243	590	0.92382	730	0.04552		
455	1.36456	595	0.89043	735	0.03972		
460	0.89328	600	0.84953	740	0.03472		
465	0.58085	605	0.80383	745	0.03034		
470	0.40619	610	0.75187	750	0.02668		
475	0.27460	615	0.69609	755	0.02347		
480	0.20865	620	0.63816	760	0.02054		
485	0.19320	625	0.58206	765	0.01802		

IES TM-30-18 Color Rendition Report



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

x 0.3385
 y 0.3449
 u' 0.2095
 v' 0.4804

CIE 13.3-1995
(CRI)
 R_a 73
 R_g -27

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21022.
Dialight unit model number F2x-46B2-Nxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 4.1954 (A)
Input Power: 501.4 (W)
Power Factor: 0.9958

Photometric measurements:

Absolute Luminous Flux: 58085.3 (lumens)
Luminous Efficacy: 115.9 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	36912	36803	36979	36905	36912	
5.00	36831	36767	36856	36585	35688	3699
15.00	29971	30395	29407	29575	28325	8331
25.00	25349	25324	25005	24920	24567	11574
35.00	22289	22257	21849	21862	21280	13733
45.00	17279	17175	16963	16860	15899	12966
55.00	8770	8901	8946	8796	6754	7340
65.00	1465	1565	1586	1534	1235	1419
75.00	492	512	568	516	426	514
85.00	54	57	73	65	40	30
90.00	3	4	5	6	2	

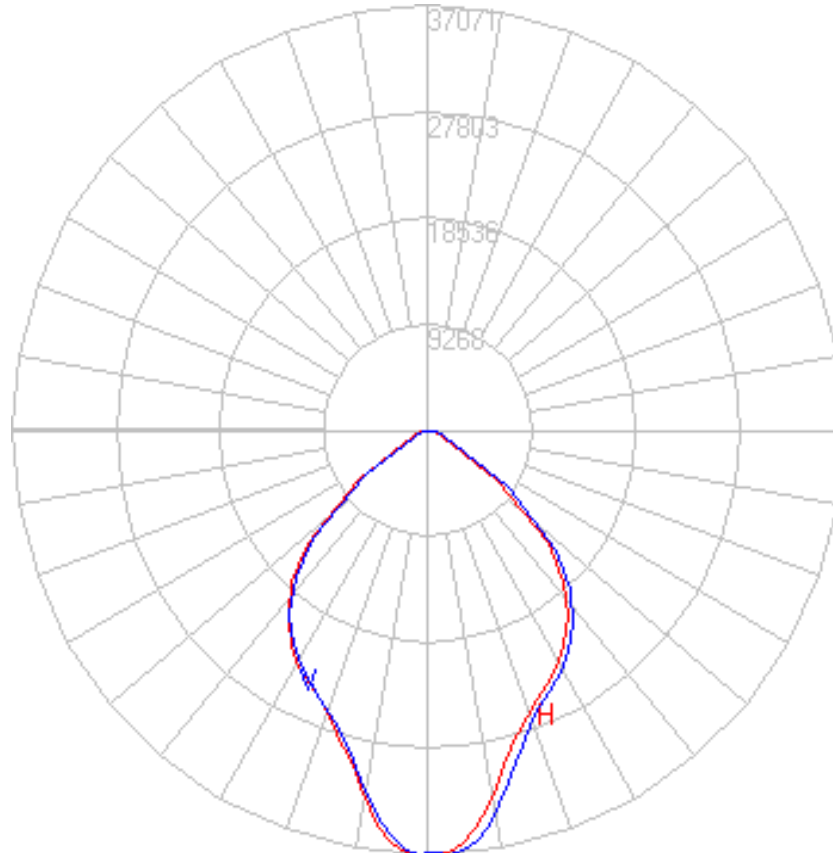
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	23042.95	39.67	39.67
0 to 40	36584.15	62.98	62.98
0 to 60	55956.75	96.34	96.34
0 to 90	58085.30	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	58085.30	100.00	100.00

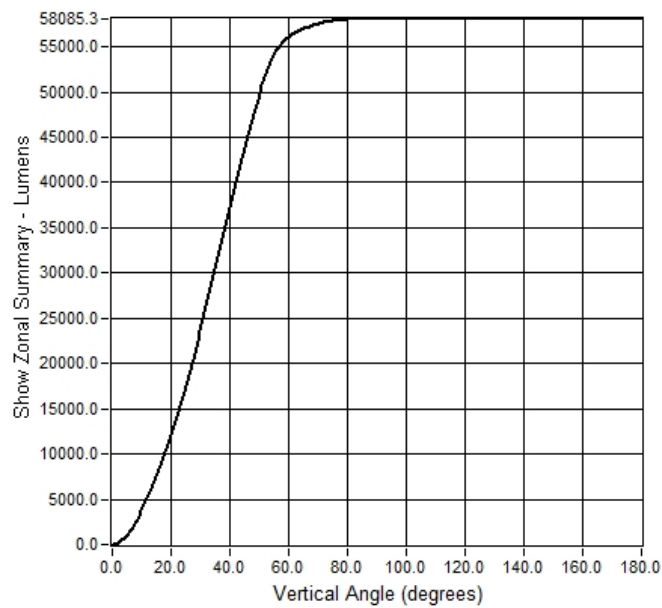
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



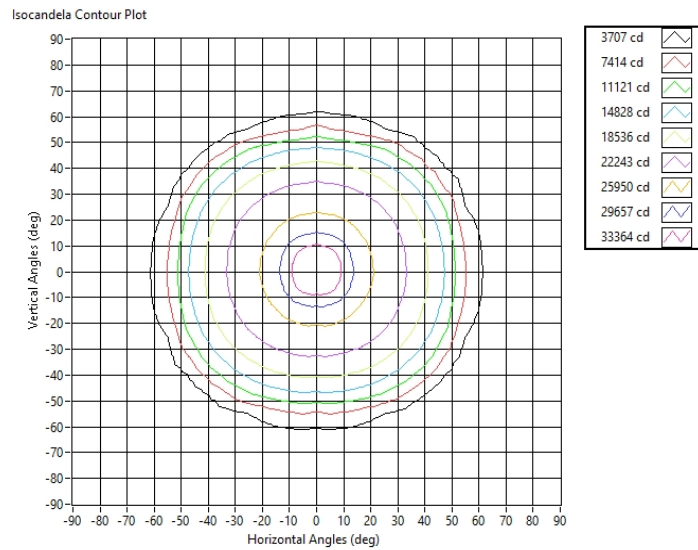
Zonal Flux Graph



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	3.60	3.54	9226.6
4	7.21	7.07	2306.7
6	10.81	10.61	1025.2
8	14.42	14.15	576.7
10	18.02	17.68	369.1
12	21.63	21.22	256.3
14	25.23	24.76	188.3
16	28.84	28.30	144.2
18	32.44	31.83	113.9
20	36.05	35.37	92.3

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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 Lighting Division

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Vishnu Shastry
 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory