

Test Report

Report Number: L21027

Date: Apr 8, 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-47B2-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 16, 2021 through March 17, 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

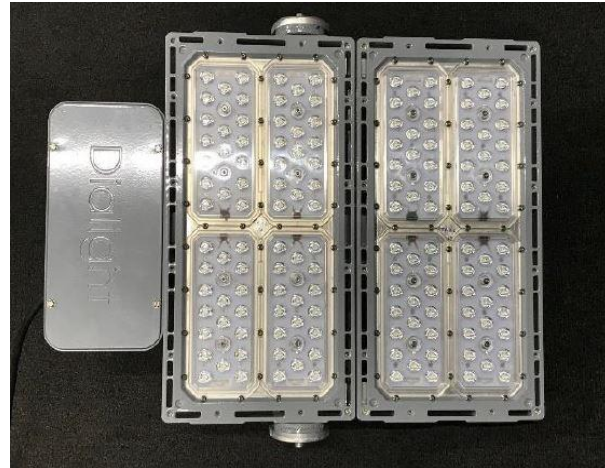
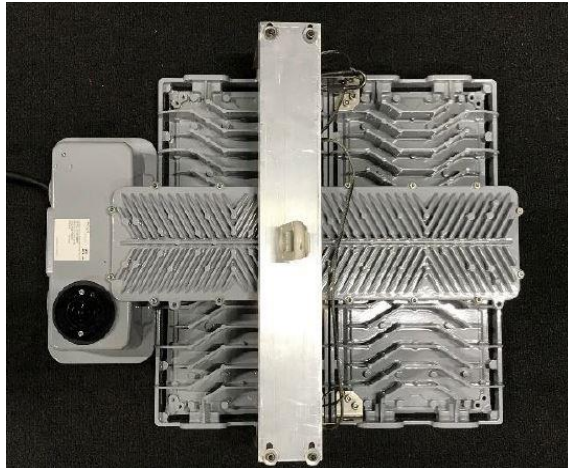
Description of sample:

Sample Number: L21027
Manufacturer: Dialight Corporation
Product Name: PC Window, NEMA 7x6, 70 CRI CW, 120-277V, 60K
Description: F2 - Flood Light
Model Number: F2x-47B2-Nxxx-xxx

Report Summary

Sample number L21027
Dialight unit model number F2x-47B2-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:	58361 (lumens)	58801 (lumens)
Electrical Power:	505.9 (W)	502.4 (W)
Luminous Efficacy:	115.4 (lumens/W)	117 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 505.9 (W)
Power Factor (120VAC): 0.996322
Current ATHD % (120VAC): 4.7331
Input Power (277VAC): 483.9 (W)
Power Factor (277VAC): 0.9674
Current ATHD % (277VAC): 9.375

Color Measurements:

Correlated Color Temperature (CCT): 5252
Color Rendering Index (CRI): 72.6004
Chromaticity Coordinate (x): 0.338
Chromaticity Coordinate (y): 0.345
Chromaticity Coordinate (u'): 0.209
Chromaticity Coordinate (v'): 0.320
DUV: -0.0007

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21027.

Dialight unit model number F2x-47B2-Nxxx-xxx

Test Conditions:

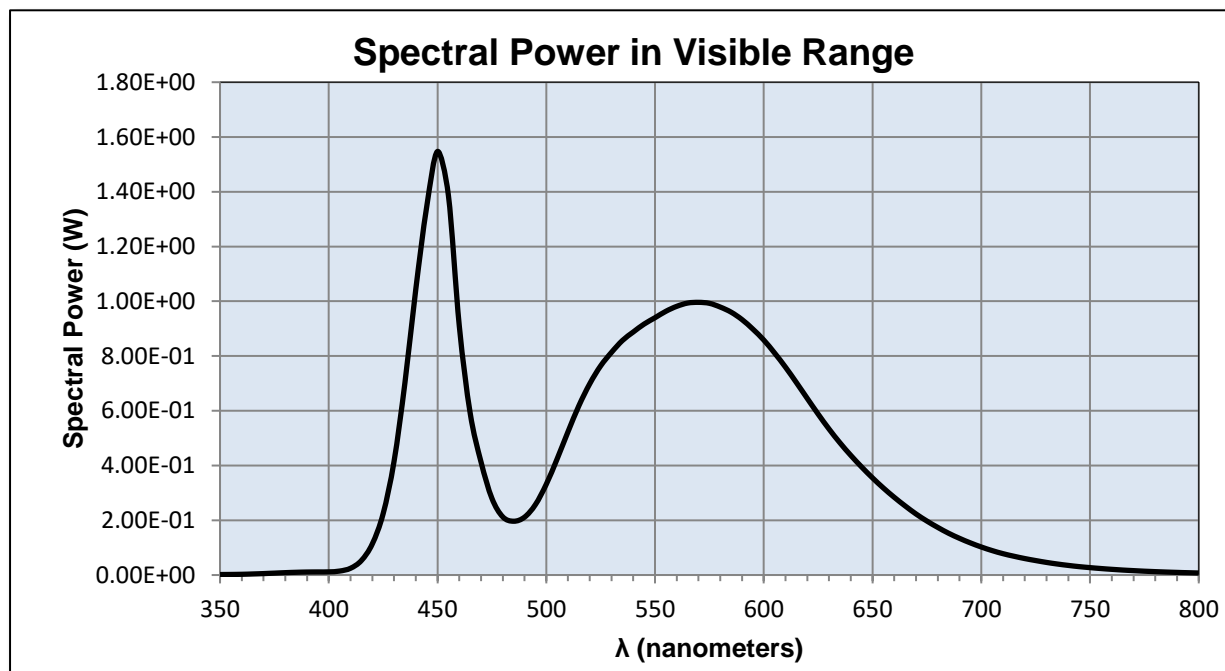
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 4.37289 (A)
Input Power: 505.9 (W)
Input Power Factor: 0.996322
Current ATHD: 4.7331 (%)

Photometric measurements:

Luminous Flux: 58361.32 (lumens)
Luminous Efficacy: 115.4 (lumens/W)
Correlated Color Temperature (CCT): 5252 (K)
CRI -Ra: 72.6004
CRI -R9: -26.573
DUV: -0.0007
CIE Coordinate (x): 0.338
CIE Coordinate (y): 0.345
CIE Coordinate (u'): 0.209
CIE Coordinate (v'): 0.320
TM30_Rf: 69.7
TM30_Rg: 94.0
TM30_Rcs_hue1: -17.65 %



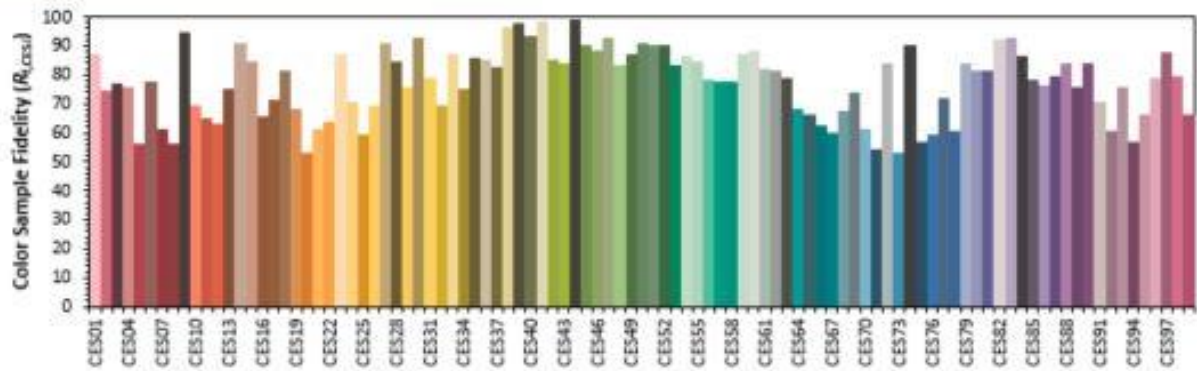
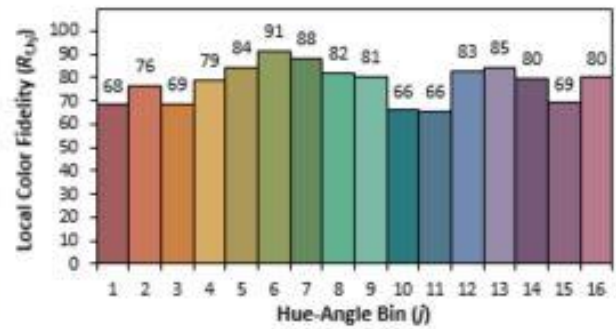
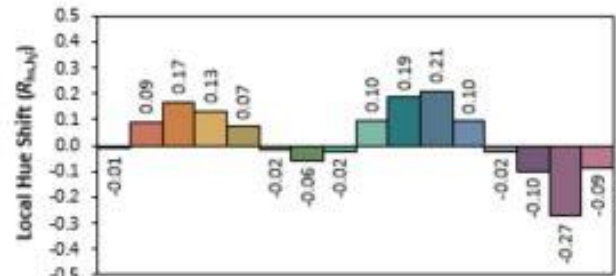
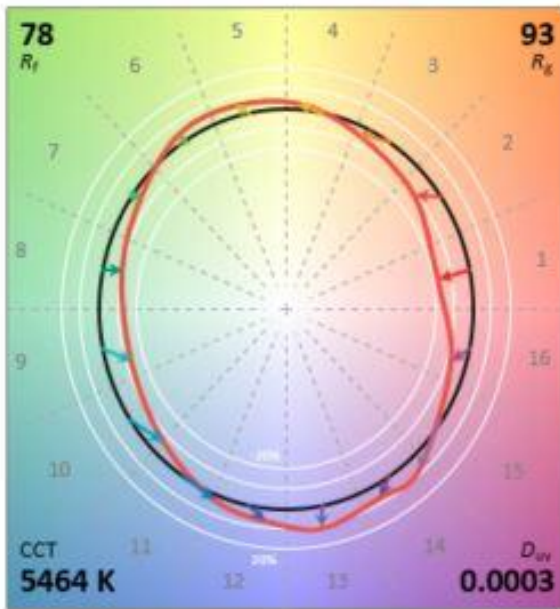
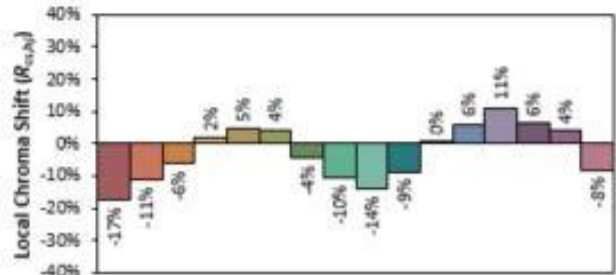
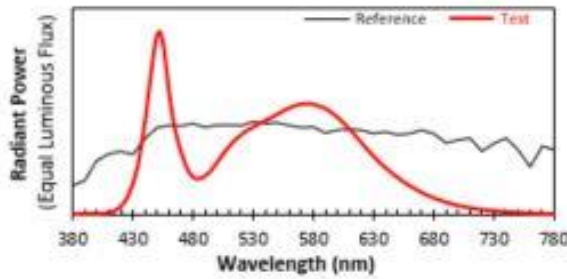
Test Results: Integrating Sphere

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	0.00183	490	0.21136	630	0.53331	770	0.01599
355	0.00212	495	0.25706	635	0.48304	775	0.01404
360	0.00270	500	0.33153	640	0.43706	780	0.01235
365	0.00383	505	0.42429	645	0.39467	785	0.01090
370	0.00527	510	0.52366	650	0.35477	790	0.00956
375	0.00692	515	0.61839	655	0.31782	795	0.00842
380	0.00868	520	0.69875	660	0.28380	800	0.00741
385	0.01002	525	0.76397	665	0.25229		
390	0.01094	530	0.81340	670	0.22305		
395	0.01124	535	0.85654	675	0.19721		
400	0.01153	540	0.88770	680	0.17391		
405	0.01446	545	0.91670	685	0.15252		
410	0.02476	550	0.93987	690	0.13396		
415	0.05299	555	0.96338	695	0.11733		
420	0.11341	560	0.98146	700	0.10242		
425	0.22432	565	0.99345	705	0.08929		
430	0.41488	570	0.99593	710	0.07798		
435	0.70157	575	0.99242	715	0.06859		
440	1.04311	580	0.97875	720	0.06014		
445	1.34373	585	0.95999	725	0.05284		
450	1.54711	590	0.93291	730	0.04604		
455	1.38640	595	0.89808	735	0.04019		
460	0.90981	600	0.85826	740	0.03508		
465	0.59215	605	0.81066	745	0.03065		
470	0.41294	610	0.75903	750	0.02703		
475	0.28023	615	0.70286	755	0.02370		
480	0.21239	620	0.64502	760	0.02082		
485	0.19652	625	0.58773	765	0.01821		

IES TM-30-18 Color Rendition Report



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

x 0.3333
 y 0.3423
 u' 0.2070
 v' 0.4783

CIE 13.3-1995
(CRI)
 R_a 77
 R_g -23

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21027.
Dialight unit model number F2x-47B2-Nxxx-xxx

Electrical Measurements:

Input Voltage: 119.77 (VAC)
Input current: 4.2154 (A)
Input Power: 502.4 (W)
Power Factor: 0.9958

Photometric measurements:

Absolute Luminous Flux: 58800.9 (lumens)
Luminous Efficacy: 117.0 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	39032	39114	39162	39298	39032	
5.00	40254	40619	39512	36838	34367	3855
15.00	31814	36893	37554	28201	23330	8522
25.00	22651	28996	33598	21909	18781	10882
35.00	18233	22513	30446	18672	14170	11986
45.00	13021	19392	25439	13900	8117	10801
55.00	7196	7350	18675	3366	1836	5828
65.00	1563	1864	4867	1242	897	1752
75.00	671	690	662	369	211	519
85.00	101	130	101	29	8	39
90.00	17	23	12	2	2	

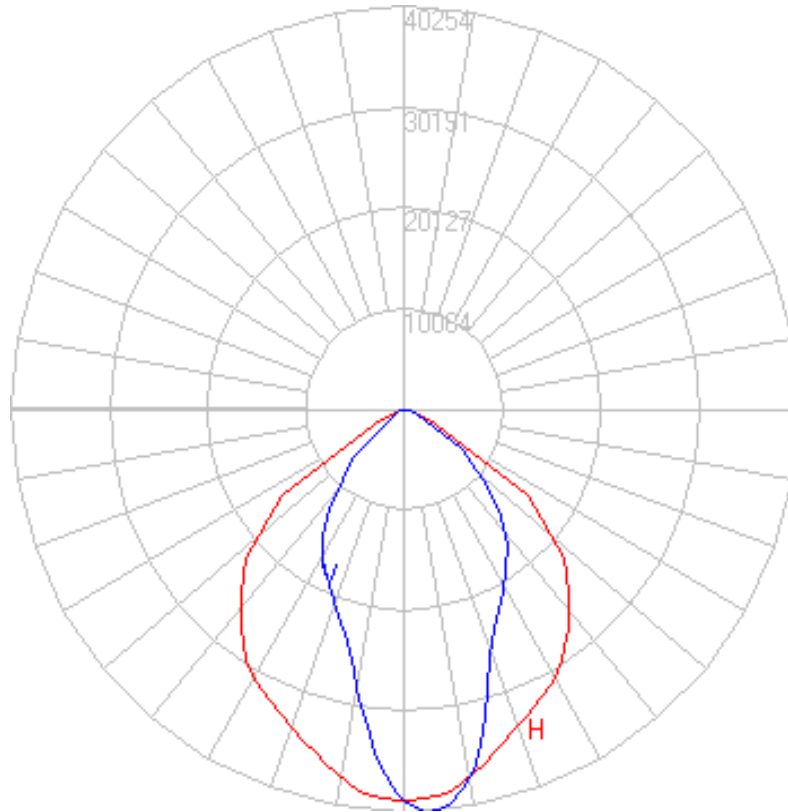
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	24270.33	41.28	41.28
0 to 40	37759.92	64.22	64.22
0 to 60	56474.09	96.04	96.04
0 to 90	58800.89	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	58800.89	100.00	100.00

Test Results: Goniometer

Results continued from previous page.

Polar Plot:

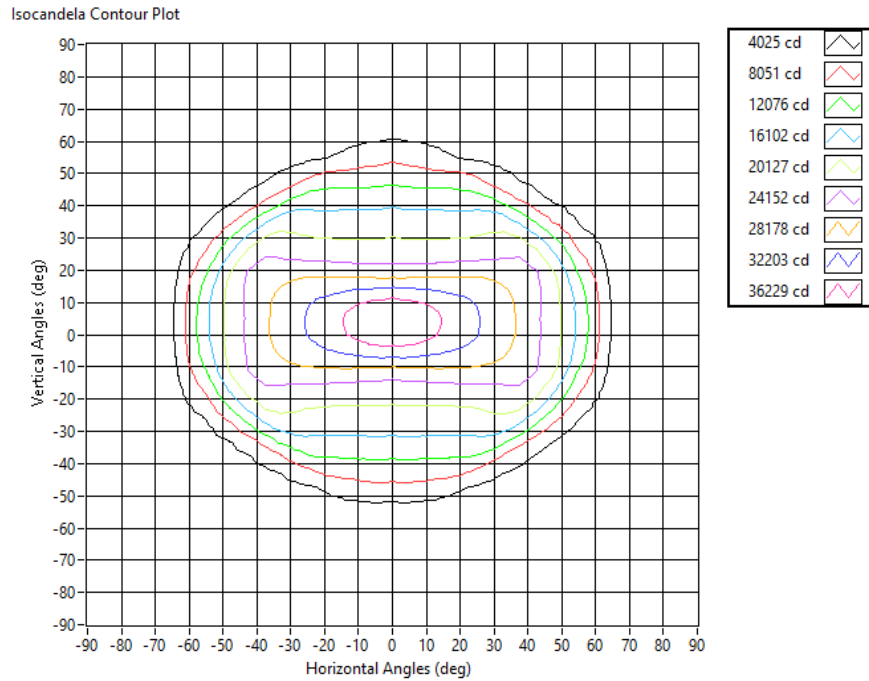


Mounting Height (ft)	Beam Cone Width (ft)	Orthogonal Beam Cone Width (ft)	Projected Illuminance (fc)
2	2.03	5.08	9786.4
4	4.06	10.17	2446.6
6	6.09	15.25	1087.4
8	8.13	20.34	611.6
10	10.16	25.42	391.5
12	12.19	30.51	271.8
14	14.22	35.59	199.7
16	16.25	40.68	152.9
18	18.28	45.76	120.8
20	20.31	50.84	97.9

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	2.03	5.08	9786.4
4	4.06	10.17	2446.6
6	6.09	15.25	1087.4
8	8.13	20.34	611.6
10	10.16	25.42	391.5
12	12.19	30.51	271.8
14	14.22	35.59	199.7
16	16.25	40.68	152.9
18	18.28	45.76	120.8
20	20.31	50.84	97.9

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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Dialight Optics Laboratory
Senior Optical Engineering Technician
Lighting Division

Test Report Reviewed and Approved By:

Vishnu Shastry
Dialight Optics Laboratory
Optical Engineer
Approved Signatory