

Test Report

Report Number: L21032

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-N7B5-Fxxx-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 22, 2021 through March 22, 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

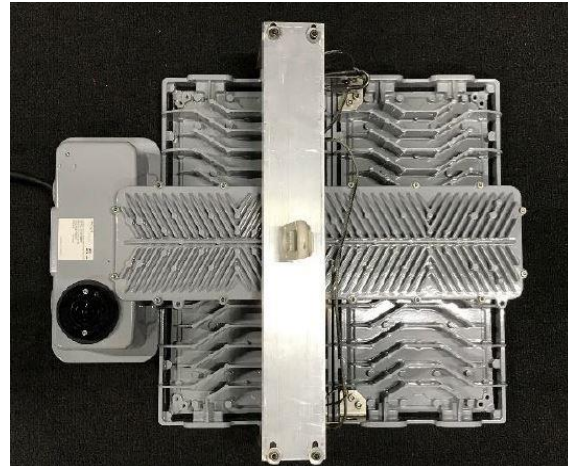
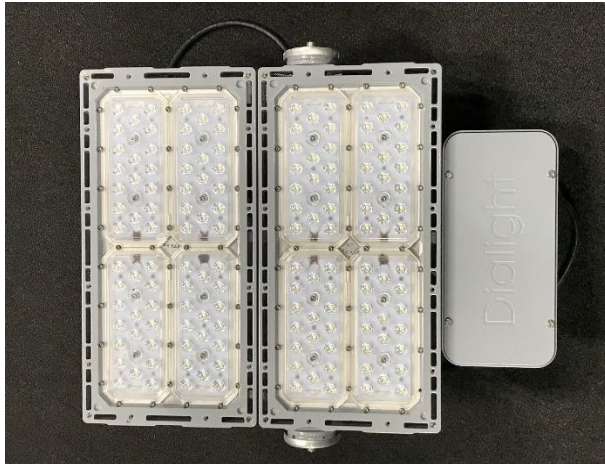
Description of sample:

Sample Number: L21032
Manufacturer: Dialight Corporation
Product Name: No Window, NEMA 7x6, 70 CRI CW, 347-480V, 30K
Description: F2 - Flood Light
Model Number: F2x-N7B5-Fxxx-xxx

Report Summary

Sample number L21032
Dialight unit model number F2x-N7B5-Fxxx-xxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	33361 (lumens)	33415 (lumens)
Electrical Power:	206.3 (W)	206.1 (W)
Luminous Efficacy:	161.7 (lumens/W)	162.1 (lumens/W)

Electrical Measurements:

Input Power (347VAC): 206.3 (W)
Power Factor (347VAC): 0.981138
Current ATHD % (347VAC): 6.54803
Input Power (480VAC): 206.0 (W)
Power Factor (480VAC): 0.9373
Current ATHD % (480VAC): 11.1

Color Measurements:

Correlated Color Temperature (CCT): 4942
Color Rendering Index (CRI): 70.3787
Chromaticity Coordinate (x): 0.347
Chromaticity Coordinate (y): 0.359
Chromaticity Coordinate (u'): 0.210
Chromaticity Coordinate (v'): 0.326
DUV: 0.0026

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21032.

Dialight unit model number F2x-N7B5-Fxxx-xxx

Test Conditions:

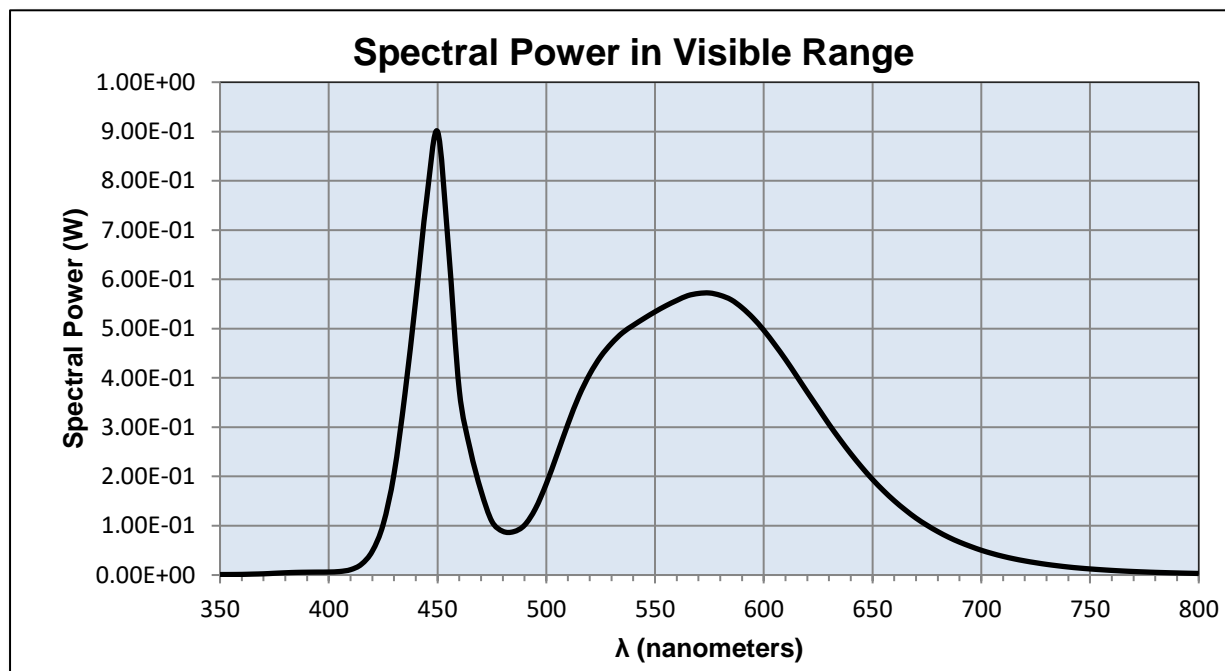
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 347 (VAC)
Input Current: 0.605501 (A)
Input Power: 206.3 (W)
Input Power Factor: 0.981138
Current ATHD: 6.54803 (%)

Photometric measurements:

Luminous Flux: 33360.67 (lumens)
Luminous Efficacy: 161.7 (lumens/W)
Correlated Color Temperature (CCT): 4942 (K)
CRI -Ra: 70.3787
CRI -R9: -37.9543
DUV: 0.0026
CIE Coordinate (x): 0.347
CIE Coordinate (y): 0.359
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.326
TM30_Rf: 68.8
TM30_Rg: 93.3
TM30_Rcs_hue1: -18.23 %



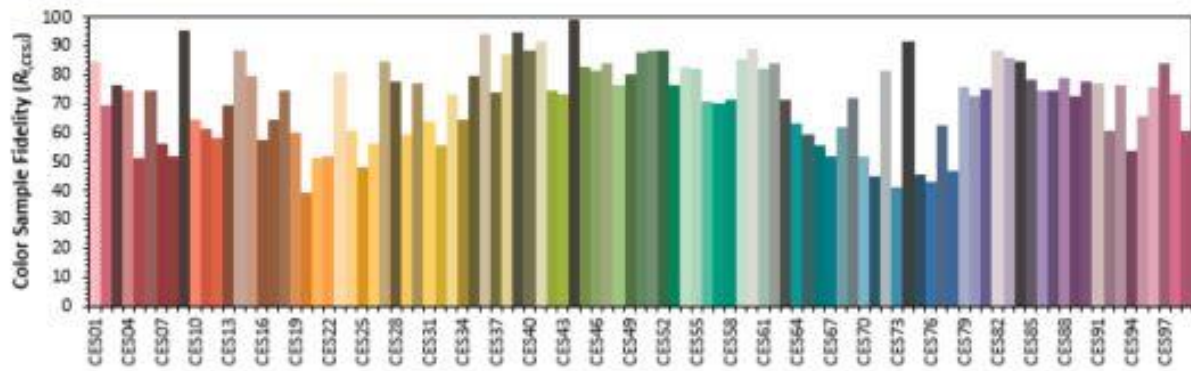
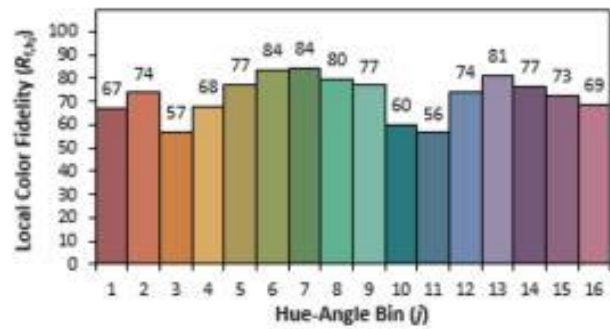
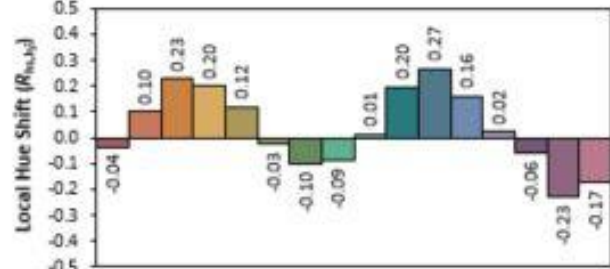
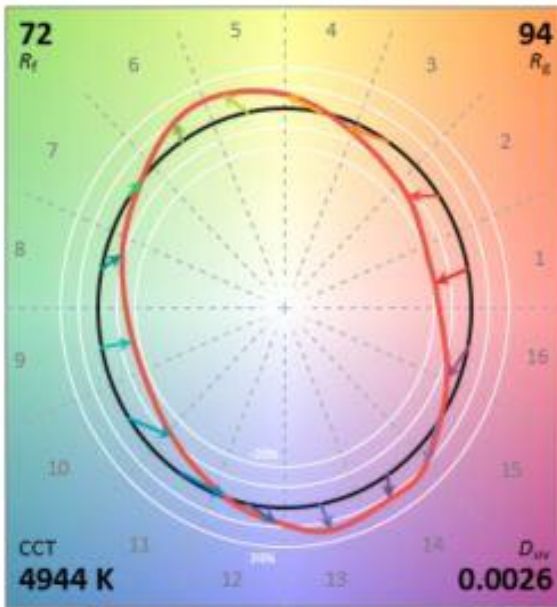
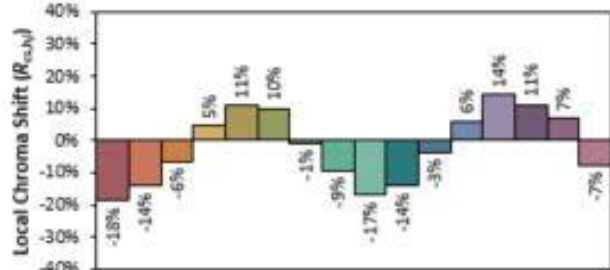
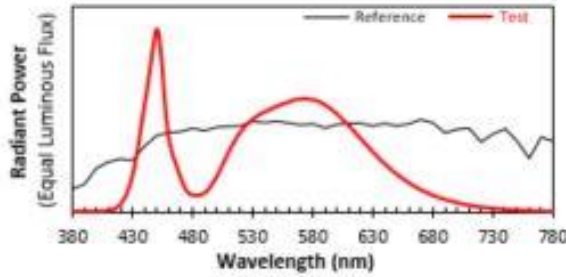
Test Results: Integrating Sphere

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	0.00099	490	0.10113	630	0.30578	770	0.00714
355	0.00105	495	0.13452	635	0.27516	775	0.00625
360	0.00130	500	0.18507	640	0.24609	780	0.00544
365	0.00186	505	0.24518	645	0.21908	785	0.00478
370	0.00248	510	0.30686	650	0.19402	790	0.00418
375	0.00355	515	0.36285	655	0.17128	795	0.00364
380	0.00456	520	0.40775	660	0.15071	800	0.00317
385	0.00535	525	0.44326	665	0.13227		
390	0.00570	530	0.47002	670	0.11552		
395	0.00592	535	0.49146	675	0.10109		
400	0.00609	540	0.50676	680	0.08817		
405	0.00715	545	0.52084	685	0.07665		
410	0.01088	550	0.53419	690	0.06678		
415	0.02183	555	0.54640	695	0.05817		
420	0.04831	560	0.55713	700	0.05032		
425	0.10267	565	0.56682	705	0.04368		
430	0.20527	570	0.57132	710	0.03789		
435	0.36672	575	0.57234	715	0.03294		
440	0.55878	580	0.56758	720	0.02865		
445	0.76260	585	0.55858	725	0.02496		
450	0.89991	590	0.54245	730	0.02162		
455	0.66593	595	0.52177	735	0.01883		
460	0.37487	600	0.49669	740	0.01625		
465	0.25554	605	0.46793	745	0.01418		
470	0.17093	610	0.43744	750	0.01238		
475	0.10876	615	0.40449	755	0.01081		
480	0.08874	620	0.37119	760	0.00938		
485	0.08796	625	0.33856	765	0.00817		

IES TM-30-18 Color Rendition Report



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

x 0.3473
 y 0.3585
 u' 0.2102
 v' 0.4883

CIE 13.3-1995
(CRI)
 R_a 70
 R_g -38

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21032.
Dialight unit model number F2x-N7B5-Fxxx-xxx

Electrical Measurements:

Input Voltage: 347.42 (VAC)
Input current: 0.6047 (A)
Input Power: 206.1 (W)
Power Factor: 0.981

Photometric measurements:

Absolute Luminous Flux: 33415.1 (lumens)
Luminous Efficacy: 162.1 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	22108	22088	21966	22088	22108	
5.00	21330	21872	22122	21612	20745	2170
15.00	15061	18228	20536	17651	14255	4596
25.00	11645	14125	18471	13480	11232	5975
35.00	9414	11640	16822	11320	9052	6749
45.00	6158	9910	13948	9334	5753	6096
55.00	1991	2432	10088	2320	1673	2692
65.00	713	739	2338	783	668	908
75.00	325	302	340	313	306	335
85.00	52	64	65	67	47	31
90.00	2	3	3	4	2	

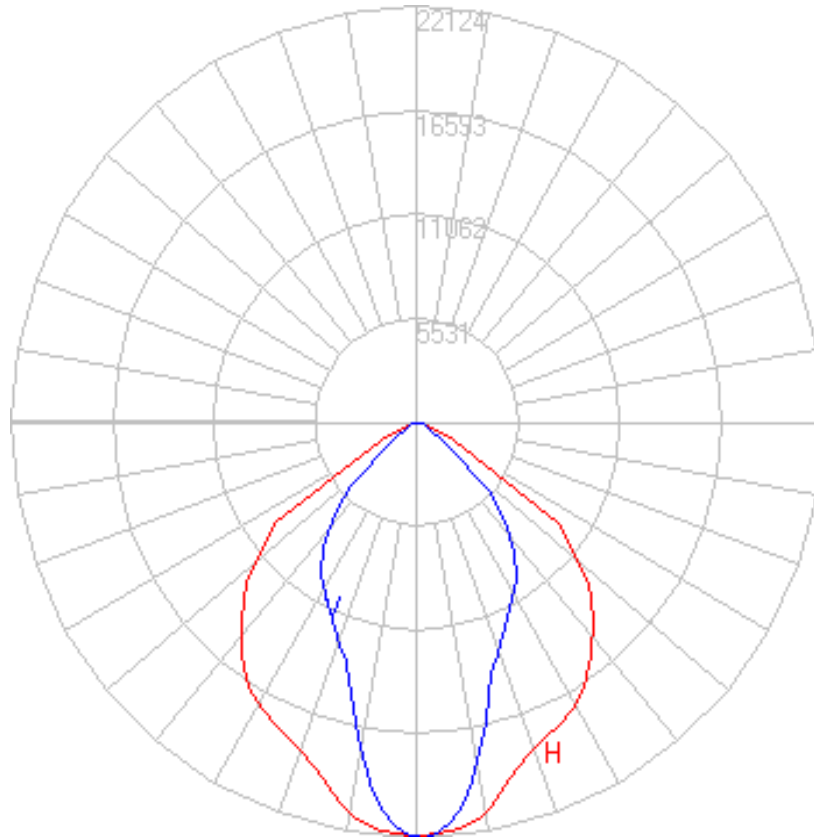
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	13506.94	40.42	40.42
0 to 40	21164.32	63.34	63.34
0 to 60	32035.62	95.87	95.87
0 to 90	33415.13	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	33415.13	100.00	100.00

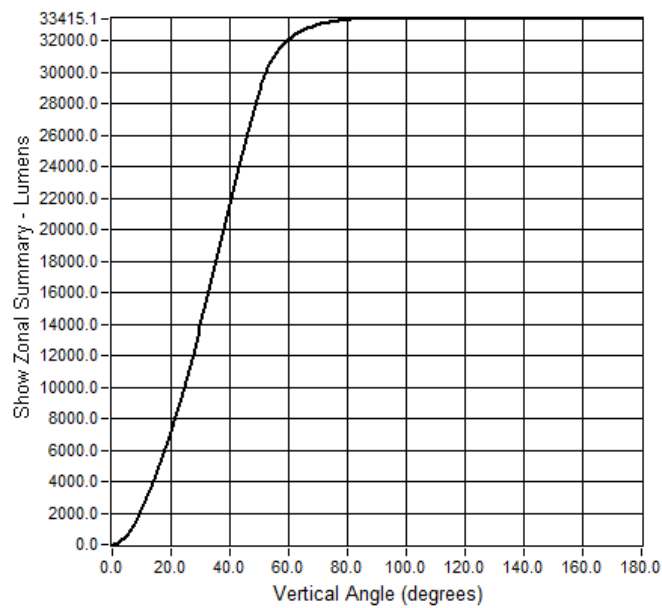
Test Results: Goniometer

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Polar Plot:



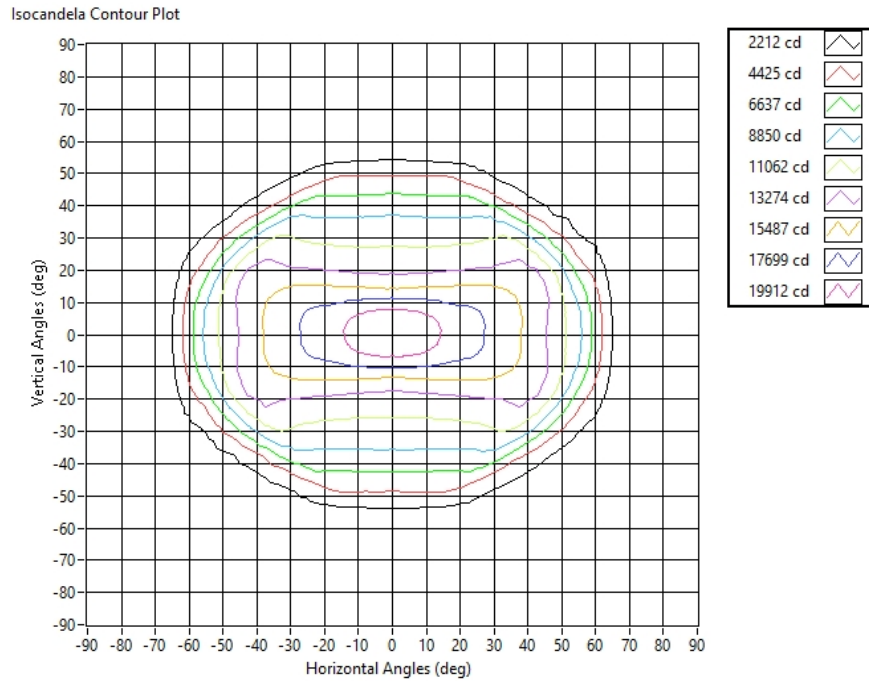
Zonal Flux Graph



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	1.97	5.24	5515.2
4	3.94	10.48	1378.8
6	5.91	15.72	612.8
8	7.88	20.96	344.7
10	9.85	26.20	220.6
12	11.82	31.44	153.2
14	13.79	36.68	112.6
16	15.76	41.92	86.2
18	17.73	47.16	68.1
20	19.70	52.40	55.2

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
Optical Engineer
Approved Signatory