

# Test Report

Report Number: L21034

Date: Apr 9, 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-Lxxx-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 23, 2021 through March 23, 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

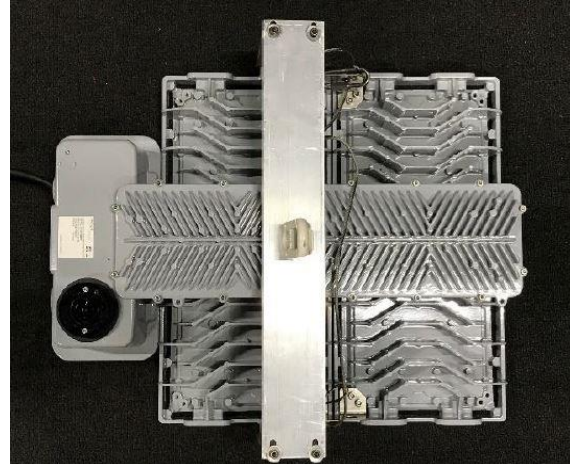
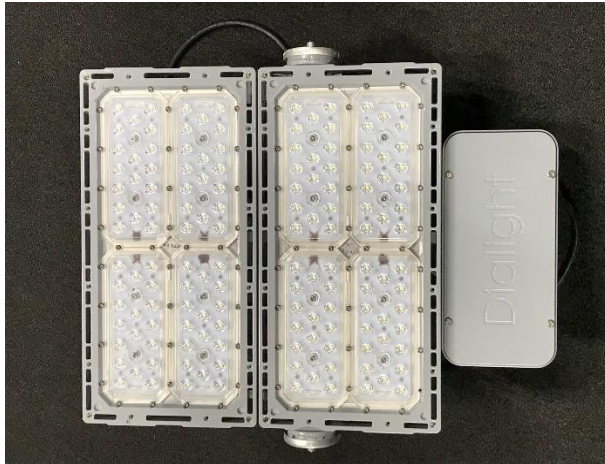
**Description of sample:**

Sample Number: L21034  
Manufacturer: Dialight Corporation  
Product Name: No Window, NEMA 7x6, 70 CRI CW, 347-480V, 48K  
Description: F2 - Flood Light  
Model Number: F2x-N7B5-Lxxx-xxx

## Report Summary

Sample number L21034  
Dialight unit model number F2x-N7B5-Lxxx-xxx

### Photograph(s) of sample:



\*Photographs not to scale. For reference only.

### Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	51737 (lumens)	52040 (lumens)
Electrical Power:	357.5 (W)	358.2 (W)
Luminous Efficacy:	144.7 (lumens/W)	145.3 (lumens/W)

### Electrical Measurements:

Input Power (347VAC): 357.5 (W)  
Power Factor (347VAC): 0.985033  
Current ATHD % (347VAC): 8.77851  
Input Power (480VAC): 357.4 (W)  
Power Factor (480VAC): 0.9626  
Current ATHD % (480VAC): 11.2

### Color Measurements:

Correlated Color Temperature (CCT): 5062  
Color Rendering Index (CRI): 70.8925  
Chromaticity Coordinate (x): 0.344  
Chromaticity Coordinate (y): 0.352  
Chromaticity Coordinate (u'): 0.210  
Chromaticity Coordinate (v'): 0.323  
DUV: 0.0009

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21034.

Dialight unit model number F2x-N7B5-Lxxx-xxx

### Test Conditions:

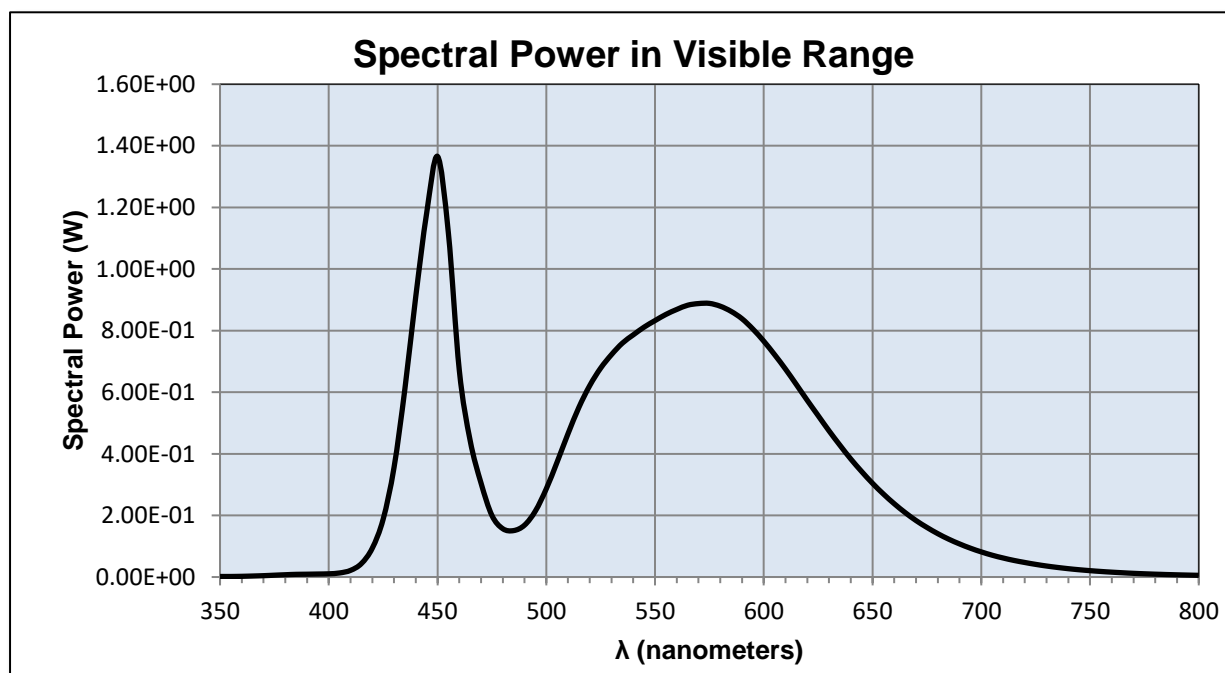
Ambient Temperature: 25 ± 1 (°C)

### Electrical Measurements:

Input Voltage: 347 (VAC)  
Input Current: 1.04443 (A)  
Input Power: 357.5 (W)  
Input Power Factor: 0.985033  
Current ATHD: 8.77851 (%)

### Photometric measurements:

Luminous Flux: 51736.6 (lumens)  
Luminous Efficacy: 144.7 (lumens/W)  
Correlated Color Temperature (CCT): 5062 (K)  
CRI -Ra: 70.8925  
CRI -R9: -35.2665  
DUV: 0.0009  
CIE Coordinate (x): 0.344  
CIE Coordinate (y): 0.352  
CIE Coordinate (u'): 0.210  
CIE Coordinate (v'): 0.323  
TM30\_Rf: 68.8  
TM30\_Rg: 93.5  
TM30\_Rcs\_hue1: -18.44 %



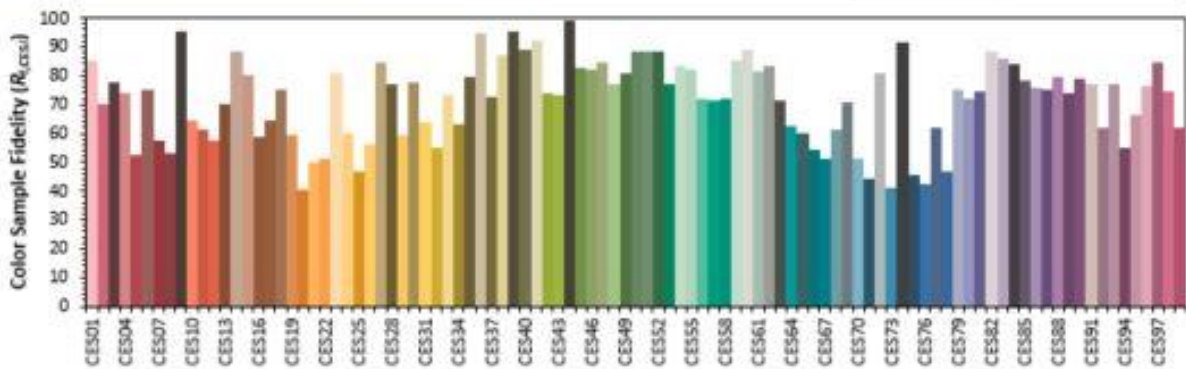
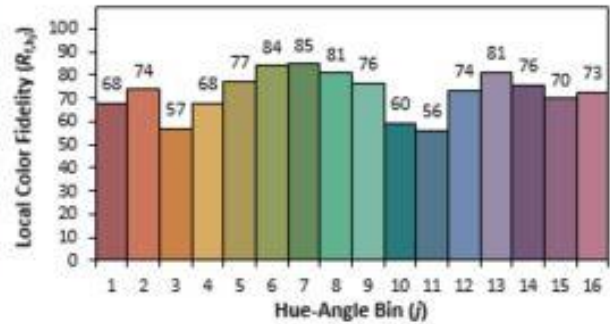
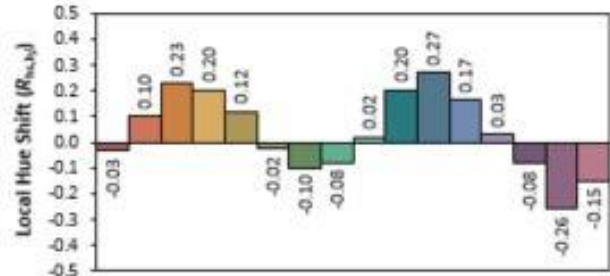
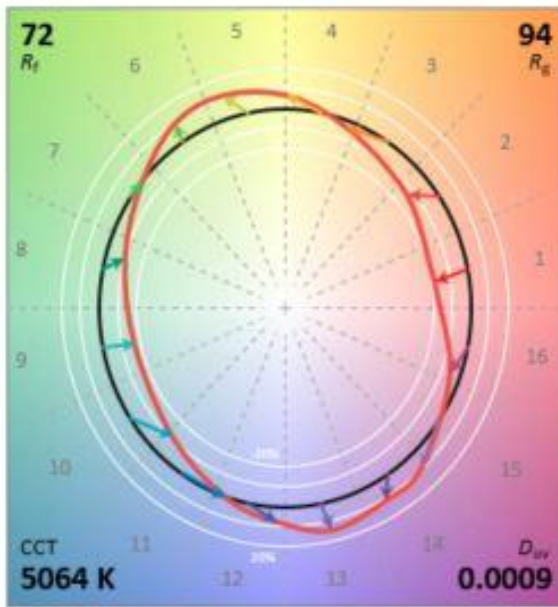
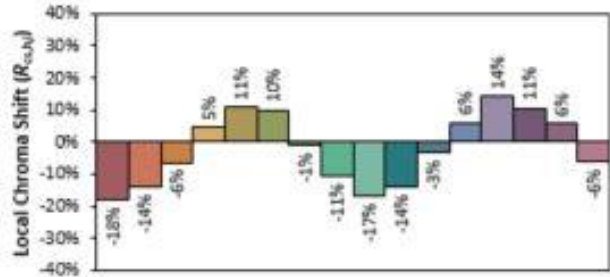
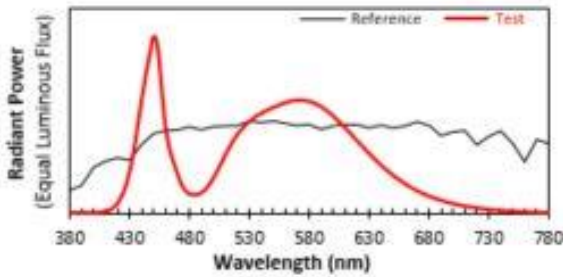
## Test Results: Integrating Sphere

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	0.16835	630	0.47465	770	0.01201
355	0.00181	495	0.21432	635	0.42799	775	0.01053
360	0.00235	500	0.28622	640	0.38327	780	0.00928
365	0.00328	505	0.37360	645	0.34255	785	0.00815
370	0.00436	510	0.46551	650	0.30426	790	0.00716
375	0.00595	515	0.55076	655	0.26959	795	0.00626
380	0.00746	520	0.62169	660	0.23788	800	0.00551
385	0.00871	525	0.67820	665	0.20916		
390	0.00919	530	0.72224	670	0.18345		
395	0.00976	535	0.75940	675	0.16108		
400	0.01049	540	0.78624	680	0.14086		
405	0.01326	545	0.81143	685	0.12301		
410	0.02160	550	0.83257	690	0.10750		
415	0.04368	555	0.85259	695	0.09364		
420	0.09356	560	0.86874	700	0.08159		
425	0.18773	565	0.88243	705	0.07088		
430	0.35573	570	0.88782	710	0.06185		
435	0.61130	575	0.88841	715	0.05394		
440	0.91076	580	0.87925	720	0.04723		
445	1.18141	585	0.86237	725	0.04111		
450	1.36563	590	0.83847	730	0.03573		
455	1.11573	595	0.80503	735	0.03115		
460	0.67169	600	0.76570	740	0.02708		
465	0.44339	605	0.72172	745	0.02360		
470	0.30513	610	0.67495	750	0.02066		
475	0.20002	615	0.62471	755	0.01804		
480	0.15689	620	0.57360	760	0.01580		
485	0.15082	625	0.52410	765	0.01380		

**IES TM-30-18 Color Rendition Report**



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

$x$  0.3435  
 $y$  0.3520  
 $u'$  0.2102  
 $v'$  0.4846

CIE 13.3-1995 (CRI)	
$R_a$	71
$R_p$	-35

## Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21034.  
Dialight unit model number F2x-N7B5-Lxxx-xxx

### Electrical Measurements:

Input Voltage: 347 (VAC)  
Input current: 1.039 (A)  
Input Power: 358.2 (W)  
Power Factor: 0.9847

### Photometric measurements:

Absolute Luminous Flux: 52040.2 (lumens)  
Luminous Efficacy: 145.3 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	34718	34699	34494	34732	34718	
5.00	33304	34227	34726	34256	32763	3410
15.00	23231	28253	32216	28374	22518	7201
25.00	17967	21736	28859	21653	17546	9317
35.00	14476	17943	26250	18030	14111	10498
45.00	9340	15164	21778	15235	9021	9495
55.00	2894	3714	15774	3885	2709	4192
65.00	1092	1143	3652	1265	1043	1414
75.00	480	467	530	510	484	518
85.00	74	99	103	116	77	49
90.00	2	4	7	12	4	

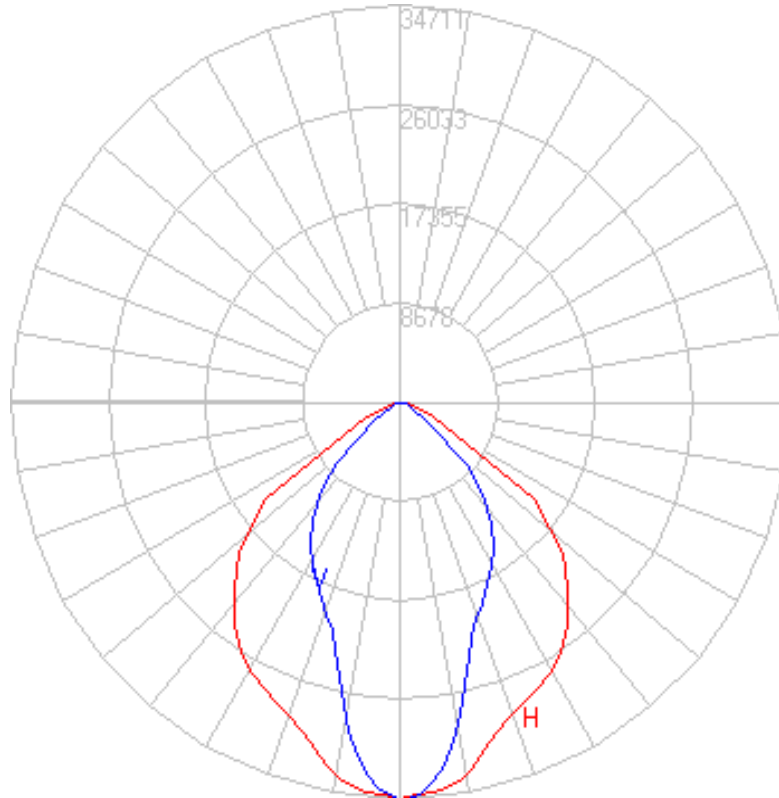
#### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	21125.78	40.60	40.60
0 to 40	33056.05	63.52	63.52
0 to 60	49921.62	95.93	95.93
0 to 90	52040.17	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	52040.17	100.00	100.00

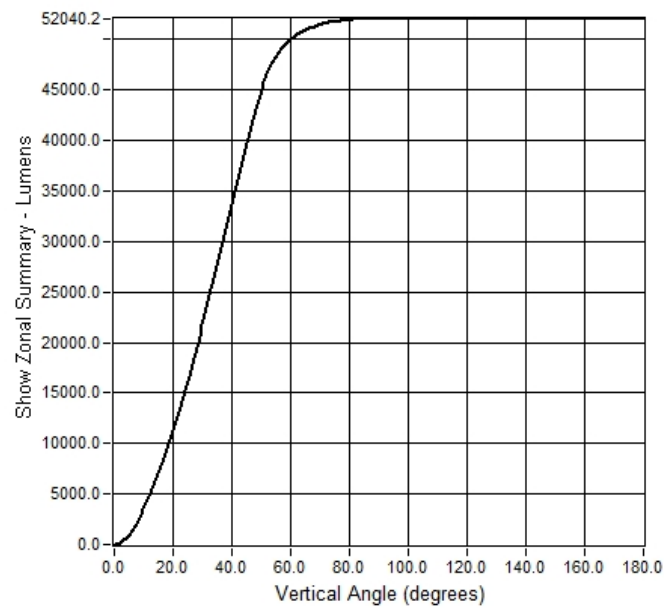
## Test Results: Goniometer

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**Polar Plot:**



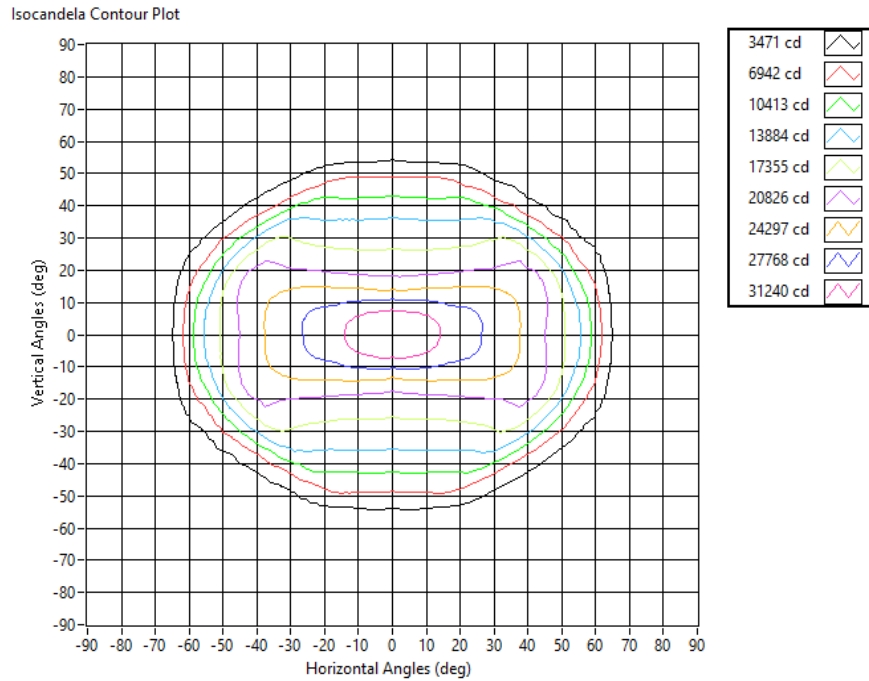
Zonal Flux Graph



## 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	1.93	5.28	8662.3
4	3.87	10.56	2165.6
6	5.80	15.84	962.5
8	7.74	21.12	541.4
10	9.67	26.40	346.5
12	11.61	31.68	240.6
14	13.54	36.96	176.8
16	15.48	42.24	135.3
18	17.41	47.52	106.9
20	19.34	52.80	86.6



**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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 Dialight Optics Laboratory  
 Optical Engineer  
 Approved Signatory