

# Test Report

Report Number: L21030

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-N7B2-Hxxx-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 18, 2021 through March 18, 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

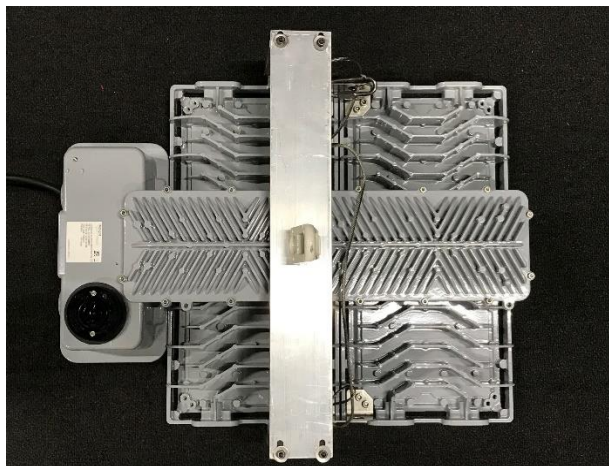
**Description of sample:**

Sample Number: L21030  
Manufacturer: Dialight Corporation  
Product Name: No Window, NEMA 7x6, 70 CRI CW, 120-277V, 36K  
Description: F2 - Flood Light  
Model Number: F2x-N7B2-Hxxx-xxx

## Report Summary

Sample number L21030  
Dialight unit model number F2x-N7B2-Hxxx-xxx

### Photograph(s) of sample:



\*Photographs not to scale. For reference only.

### Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	37572 (lumens)	37774 (lumens)
Electrical Power:	241.2 (W)	241.0 (W)
Luminous Efficacy:	155.8 (lumens/W)	156.7 (lumens/W)

### Electrical Measurements:

Input Power (120VAC): 241.2 (W)  
Power Factor (120VAC): 0.995343  
Current ATHD % (120VAC): 5.157  
Input Power (277VAC): 232.6 (W)  
Power Factor (277VAC): 0.9592  
Current ATHD % (277VAC): 9.38

### Color Measurements:

Correlated Color Temperature (CCT): 4973  
Color Rendering Index (CRI): 70.5444  
Chromaticity Coordinate (x): 0.346  
Chromaticity Coordinate (y): 0.357  
Chromaticity Coordinate (u'): 0.210  
Chromaticity Coordinate (v'): 0.325  
DUV: 0.0022

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21030.

Dialight unit model number F2x-N7B2-Hxxx-xxx

### Test Conditions:

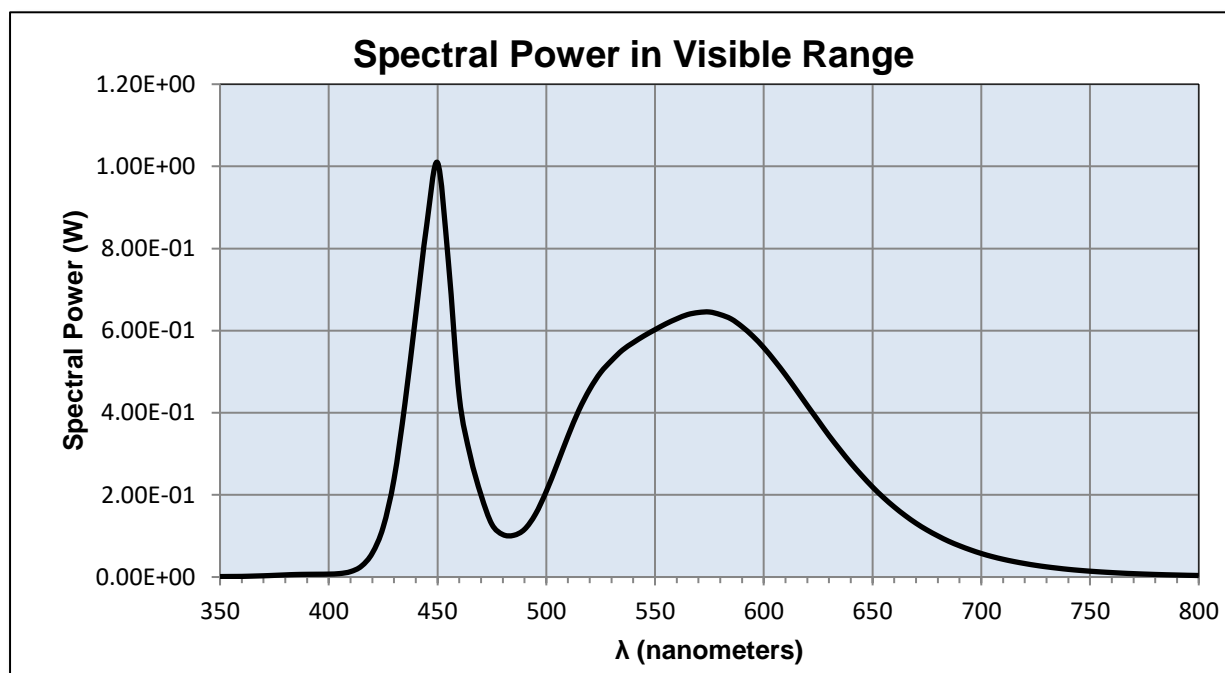
Ambient Temperature: 25 ± 1 (°C)

### Electrical Measurements:

Input Voltage: 120 (VAC)  
Input Current: 2.01876 (A)  
Input Power: 241.2 (W)  
Input Power Factor: 0.995343  
Current ATHD: 5.157 (%)

### Photometric measurements:

Luminous Flux: 37572.31 (lumens)  
Luminous Efficacy: 155.8 (lumens/W)  
Correlated Color Temperature (CCT): 4973 (K)  
CRI -Ra: 70.5444  
CRI -R9: -36.8566  
DUV: 0.0022  
CIE Coordinate (x): 0.346  
CIE Coordinate (y): 0.357  
CIE Coordinate (u'): 0.210  
CIE Coordinate (v'): 0.325  
TM30\_Rf: 68.8  
TM30\_Rg: 93.4  
TM30\_Rcs\_hue1: -18.16 %



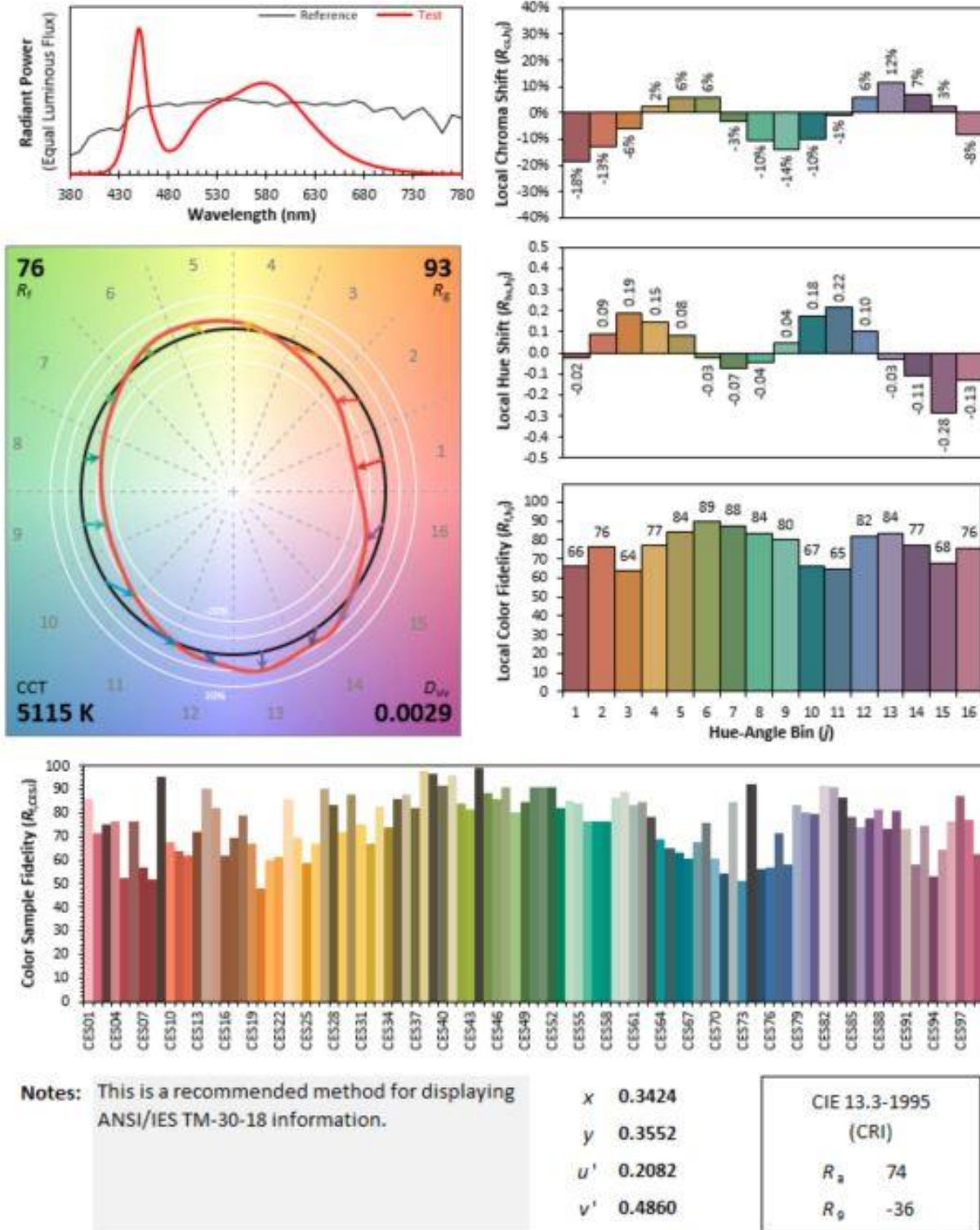
## Test Results: Integrating Sphere

Results continued from previous page.

### Tabulated Spectral Power in Visible Range:

$\lambda$ (nm)	(W/nm)	$\lambda$ (nm)	(W/nm)	$\lambda$ (nm)	(W/nm)	$\lambda$ (nm)	(W/nm)
350	0.00107	490	0.11606	630	0.34428	770	0.00821
355	0.00133	495	0.15279	635	0.31025	775	0.00721
360	0.00155	500	0.20841	640	0.27754	780	0.00630
365	0.00225	505	0.27470	645	0.24758	785	0.00553
370	0.00304	510	0.34343	650	0.21923	790	0.00485
375	0.00406	515	0.40617	655	0.19365	795	0.00423
380	0.00520	520	0.45739	660	0.17056	800	0.00371
385	0.00618	525	0.49808	665	0.14974		
390	0.00660	530	0.52704	670	0.13101		
395	0.00680	535	0.55247	675	0.11464		
400	0.00713	540	0.57078	680	0.10023		
405	0.00842	545	0.58746	685	0.08715		
410	0.01315	550	0.60233	690	0.07608		
415	0.02638	555	0.61657	695	0.06613		
420	0.05803	560	0.62878	700	0.05729		
425	0.12125	565	0.63910	705	0.04976		
430	0.23842	570	0.64412	710	0.04329		
435	0.42177	575	0.64537	715	0.03771		
440	0.63881	580	0.63900	720	0.03282		
445	0.85579	585	0.62846	725	0.02848		
450	1.00885	590	0.60964	730	0.02481		
455	0.76662	595	0.58637	735	0.02157		
460	0.43889	600	0.55853	740	0.01866		
465	0.29642	605	0.52652	745	0.01628		
470	0.19975	610	0.49212	750	0.01421		
475	0.12831	615	0.45532	755	0.01239		
480	0.10345	620	0.41772	760	0.01082		
485	0.10156	625	0.38099	765	0.00938		

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



## Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21030.  
Dialight unit model number F2x-N7B2-Hxxx-xxx

### Electrical Measurements:

Input Voltage: 119.98 (VAC)  
Input current: 2.0191 (A)  
Input Power: 241.0 (W)  
Power Factor: 0.9952

### Photometric measurements:

Absolute Luminous Flux: 37773.5 (lumens)  
Luminous Efficacy: 156.7 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	24645	24645	24645	24645	24645	
5.00	23023	23328	24425	24763	24330	2425
15.00	15639	18406	22132	21046	17646	5131
25.00	12525	14428	20299	16567	13256	6697
35.00	9934	12332	18501	13482	10808	7552
45.00	6055	9098	15191	11606	7424	6737
55.00	1446	1990	10715	3265	3717	3239
65.00	727	723	2470	960	823	996
75.00	271	282	375	400	452	379
85.00	31	38	68	109	89	35
90.00	0	0	0	0	0	

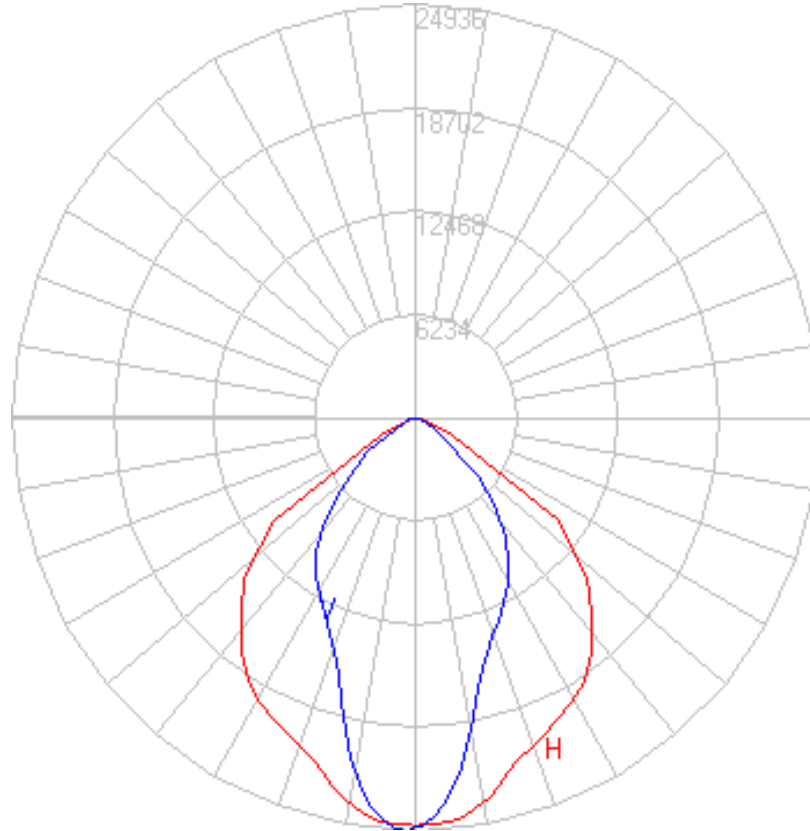
#### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	15217.98	40.29	40.29
0 to 40	23847.72	63.13	63.13
0 to 60	36183.82	95.79	95.79
0 to 90	37773.54	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	37773.54	100.00	100.00

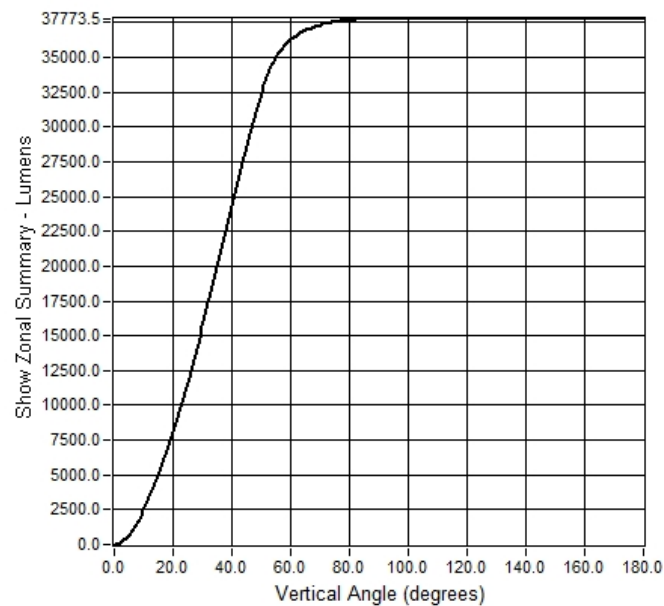
## Test Results: Goniometer

Results continued from previous page.

### Polar Plot:



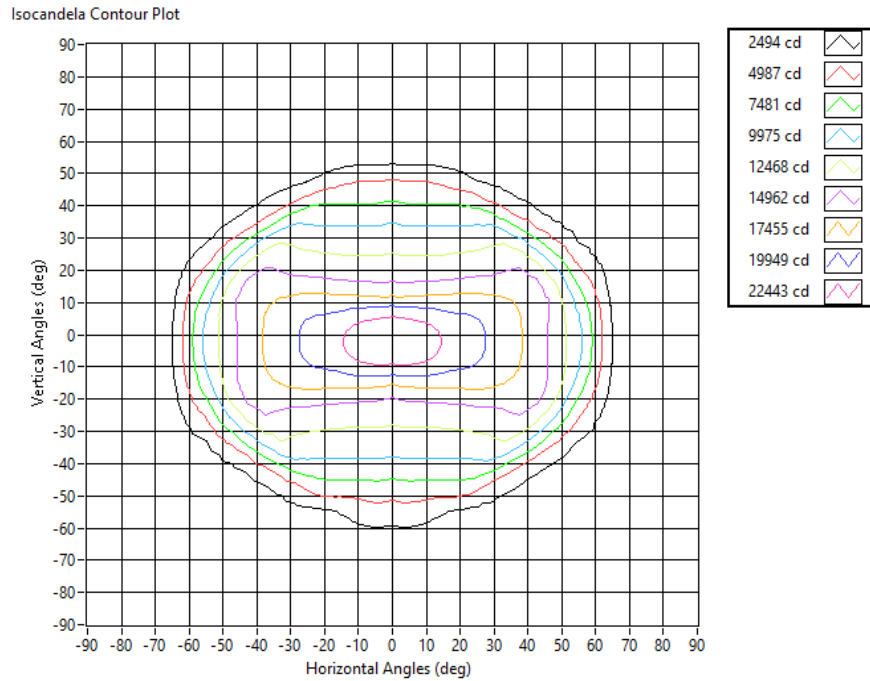
Zonal Flux Graph



## 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	2.02	5.16	6161.3
4	4.04	10.33	1540.3
6	6.06	15.49	684.6
8	8.08	20.65	385.1
10	10.10	25.82	246.5
12	12.12	30.98	171.1
14	14.14	36.14	125.7
16	16.16	41.31	96.3
18	18.18	46.47	76.1
20	20.20	51.63	61.6



**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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 Approved Signatory