

# Test Report

Report Number: L21069

Date: Apr 16, 2021

Issued by:

Dialight Optics Laboratory  
1501 Route 34 South, Farmingdale, NJ 07727

Test of one F1 - Flood Light  
Unit manufacturer: Dialight Corporation  
Unit model number: F1x-N6A2-Bxxx-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 29, 2021 through March 29, 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: L21069  
Manufacturer: Dialight Corporation  
Product Name: No Window, NEMA 6, Amber, 100-277V, 12k  
Description: F1 - Flood Light  
Model Number: F1x-N6A2-Bxxx-xxx

## Report Summary

Sample number L21069  
Dialight unit model number F1x-N6A2-Bxxx-xxx

### Photograph(s) of sample:



\*Photographs not to scale. For reference only.

### Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	13238 (lumens)	13061 (lumens)
Electrical Power:	226.2 (W)	225.5 (W)
Luminous Efficacy:	58.54 (lumens/W)	57.92 (lumens/W)

### Electrical Measurements:

Input Power (120VAC): 226.2 (W)  
 Power Factor (120VAC): 0.996007  
 Current ATHD % (120VAC): 4.92074  
 Input Power (277VAC): 215.8 (W)  
 Power Factor (277VAC): 0.9651  
 Current ATHD % (277VAC): 9.5

### Color Measurements:

Correlated Color Temperature (CCT): 1973  
 Color Rendering Index (CRI): 56.4551  
 Chromaticity Coordinate (x): 0.552  
 Chromaticity Coordinate (y): 0.443  
 Chromaticity Coordinate (u'): 0.306  
 Chromaticity Coordinate (v'): 0.369  
 DUV: 0.0093

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21069.

Dialight unit model number F1x-N6A2-Bxxx-xxx

### Test Conditions:

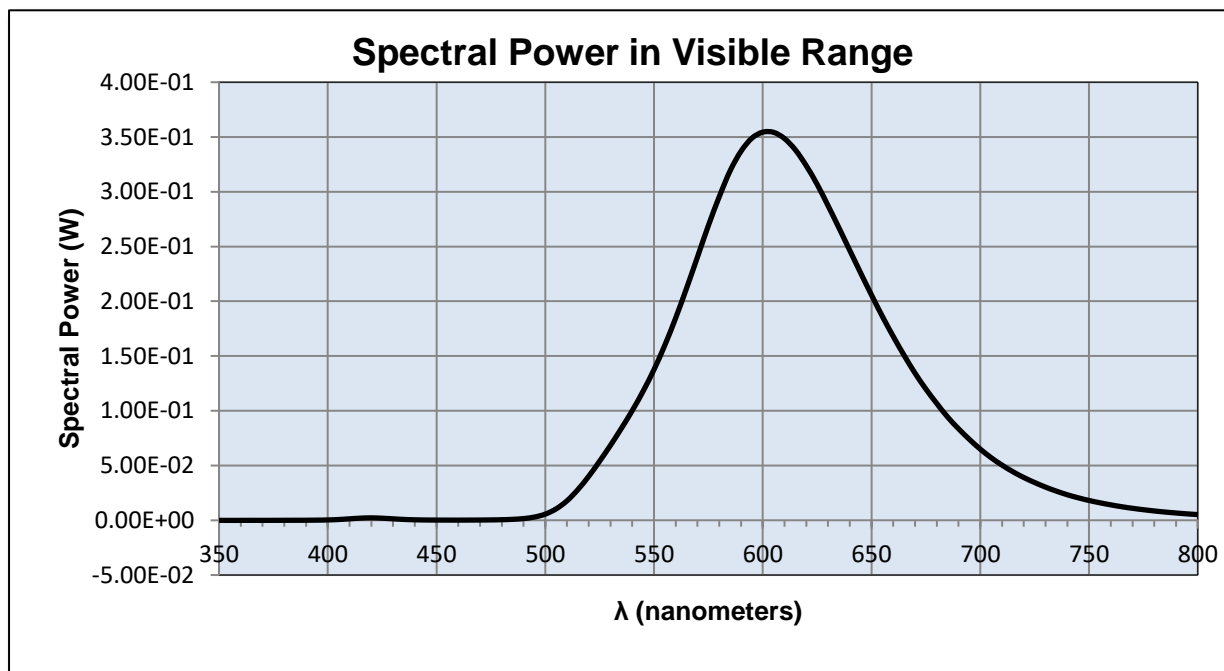
Ambient Temperature: 25 ± 1 (°C)

### Electrical Measurements:

Input Voltage: 120 (VAC)  
 Input Current: 1.89167 (A)  
 Input Power: 226.2 (W)  
 Input Power Factor: 0.996007  
 Current ATHD: 4.92074 (%)

### Photometric measurements:

Luminous Flux: 13238.28 (lumens)  
 Luminous Efficacy: 58.5 (lumens/W)  
 Correlated Color Temperature (CCT): 1973 (K)  
 CRI -Ra: 56.4551  
 CRI -R9: -58.5542  
 DUV: 0.0093  
 CIE Coordinate (x): 0.552  
 CIE Coordinate (y): 0.443  
 CIE Coordinate (u'): 0.306  
 CIE Coordinate (v'): 0.369  
 TM30\_Rf: 26.9  
 TM30\_Rg: 26.9  
 TM30\_Rcs\_hue1: -20.88 %



## 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	-0.00007	490	0.00153	630	0.28730	770	0.01091
355	-0.00012	495	0.00292	635	0.26710	775	0.00964
360	-0.00010	500	0.00562	640	0.24640	780	0.00850
365	-0.00008	505	0.01042	645	0.22585	785	0.00750
370	-0.00008	510	0.01782	650	0.20566	790	0.00664
375	-0.00007	515	0.02801	655	0.18614	795	0.00586
380	-0.00003	520	0.04021	660	0.16780	800	0.00518
385	0.00000	525	0.05399	665	0.15052		
390	0.00004	530	0.06853	670	0.13433		
395	0.00012	535	0.08396	675	0.11981		
400	0.00030	540	0.10018	680	0.10665		
405	0.00070	545	0.11792	685	0.09425		
410	0.00131	550	0.13765	690	0.08356		
415	0.00192	555	0.16003	695	0.07385		
420	0.00219	560	0.18497	700	0.06498		
425	0.00189	565	0.21215	705	0.05714		
430	0.00132	570	0.24050	710	0.05035		
435	0.00077	575	0.26913	715	0.04433		
440	0.00043	580	0.29548	720	0.03905		
445	0.00026	585	0.31915	725	0.03448		
450	0.00019	590	0.33697	730	0.03028		
455	0.00014	595	0.34891	735	0.02659		
460	0.00014	600	0.35436	740	0.02331		
465	0.00017	605	0.35420	745	0.02052		
470	0.00023	610	0.34851	750	0.01808		
475	0.00033	615	0.33817	755	0.01597		
480	0.00051	620	0.32373	760	0.01408		
485	0.00086	625	0.30674	765	0.01238		

## Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21069.  
Dialight unit model number F1x-N6A2-Bxxx-xxx

### Electrical Measurements:

Input Voltage: 120 (VAC)  
Input current: 1.8827 (A)  
Input Power: 225.5 (W)  
Power Factor: 0.9953

### Photometric measurements:

Absolute Luminous Flux: 13061.1 (lumens)  
Luminous Efficacy: 57.9 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	8232	8089	8090	8112	8232	
5.00	8297	7908	7528	7289	7388	788
15.00	6576	6194	5921	5792	5786	1730
25.00	5483	5417	5218	5104	5091	2440
35.00	4951	4906	4679	4510	4531	2968
45.00	4099	3880	3504	3183	3276	2808
55.00	2547	2386	1811	1317	1412	1728
65.00	665	569	380	298	312	458
75.00	193	159	134	100	111	153
85.00	51	41	18	10	13	17
90.00	10	6	0	0	1	

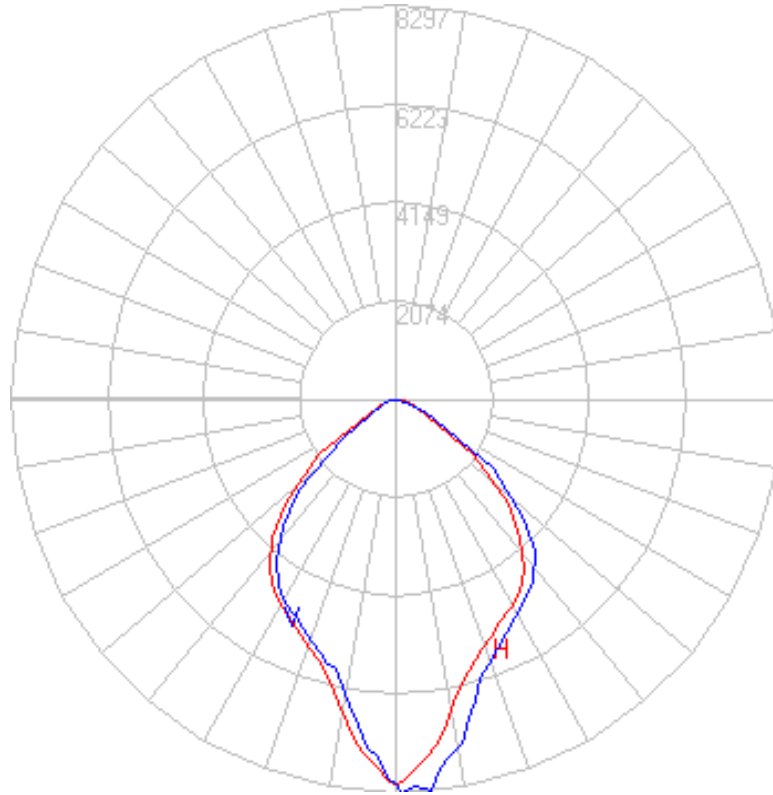
#### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	4847.49	37.11	37.11
0 to 40	7792.19	59.66	59.66
0 to 60	12343.07	94.50	94.50
0 to 90	13061.14	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	13061.14	100.00	100.00

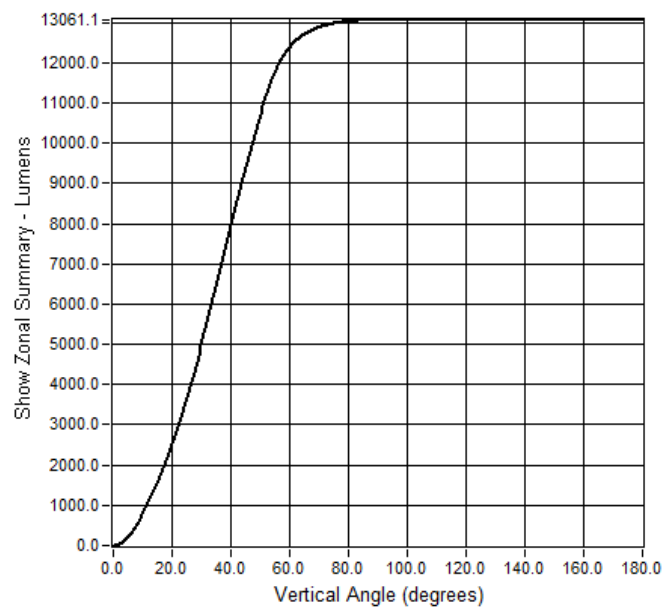
## Test Results: Goniometer

Results continued from previous page.

### Polar Plot:



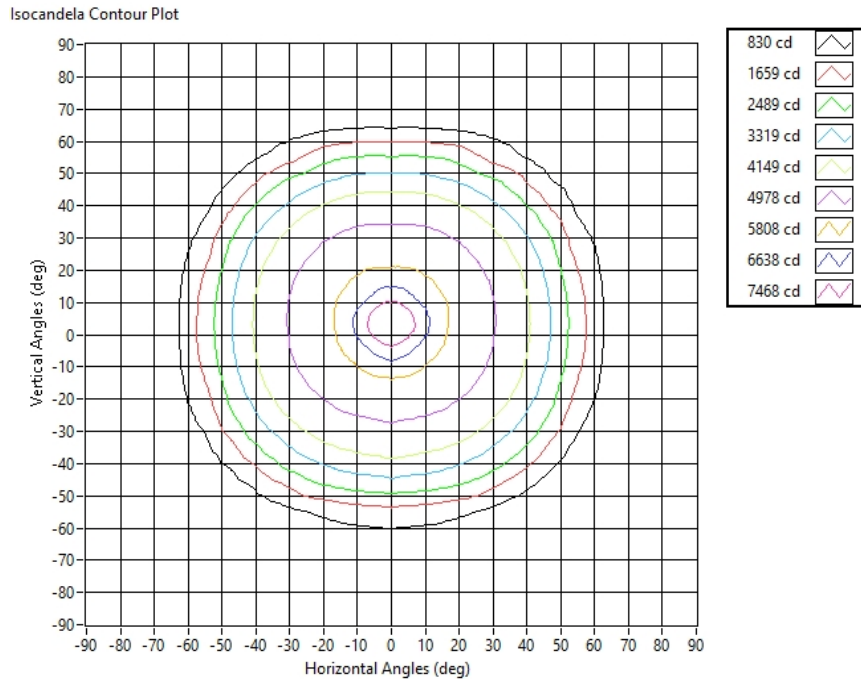
Zonal Flux Graph



## 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	3.70	3.52	2027.2
4	7.41	7.04	506.8
6	11.11	10.56	225.2
8	14.81	14.08	126.7
10	18.51	17.60	81.1
12	22.22	21.12	56.3
14	25.92	24.64	41.4
16	29.62	28.16	31.7
18	33.32	31.68	25.0
20	37.03	35.21	20.3

**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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