

Test Report

Report Number: L21068

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-N6W2-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: April 13, 2021 through April 15, 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

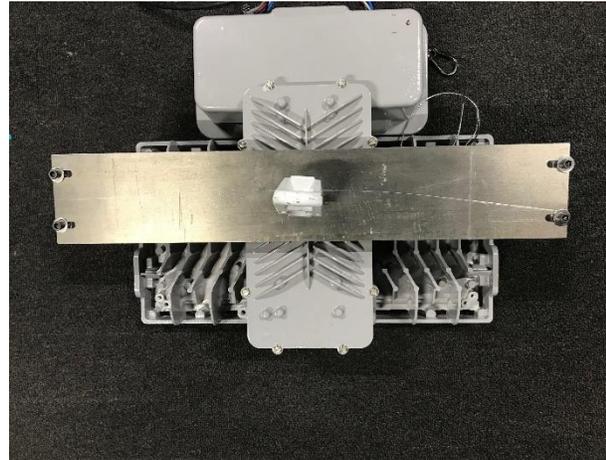
Description of sample:

Sample Number: L21068
Manufacturer: Dialight Corporation
Product Name: No Window, NEMA 6, 80 CRI WW, 100-277V, 30K
Description: F1 - Flood Light
Model Number: F1x-N6W2-Fxxx-xxx

Report Summary

Sample number L21068
Dialight unit model number F1x-N6W2-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:	23913 (lumens)	24041 (lumens)
Electrical Power:	246.7 (W)	246.9 (W)
Luminous Efficacy:	96.94 (lumens/W)	97.38 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 246.7 (W)
 Power Factor (120VAC): 0.996215
 Current ATHD % (120VAC): 4.81505
 Input Power (277VAC): 234.3 (W)
 Power Factor (277VAC): 0.9702
 Current ATHD % (277VAC): 9.23

Color Measurements:

Correlated Color Temperature (CCT): 2818
 Color Rendering Index (CRI): 83.0113
 Chromaticity Coordinate (x): 0.449
 Chromaticity Coordinate (y): 0.406
 Chromaticity Coordinate (u'): 0.258
 Chromaticity Coordinate (v'): 0.349
 DUV: -0.0006

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21068.

Dialight unit model number F1x-N6W2-Fxxx-xxx

Test Conditions:

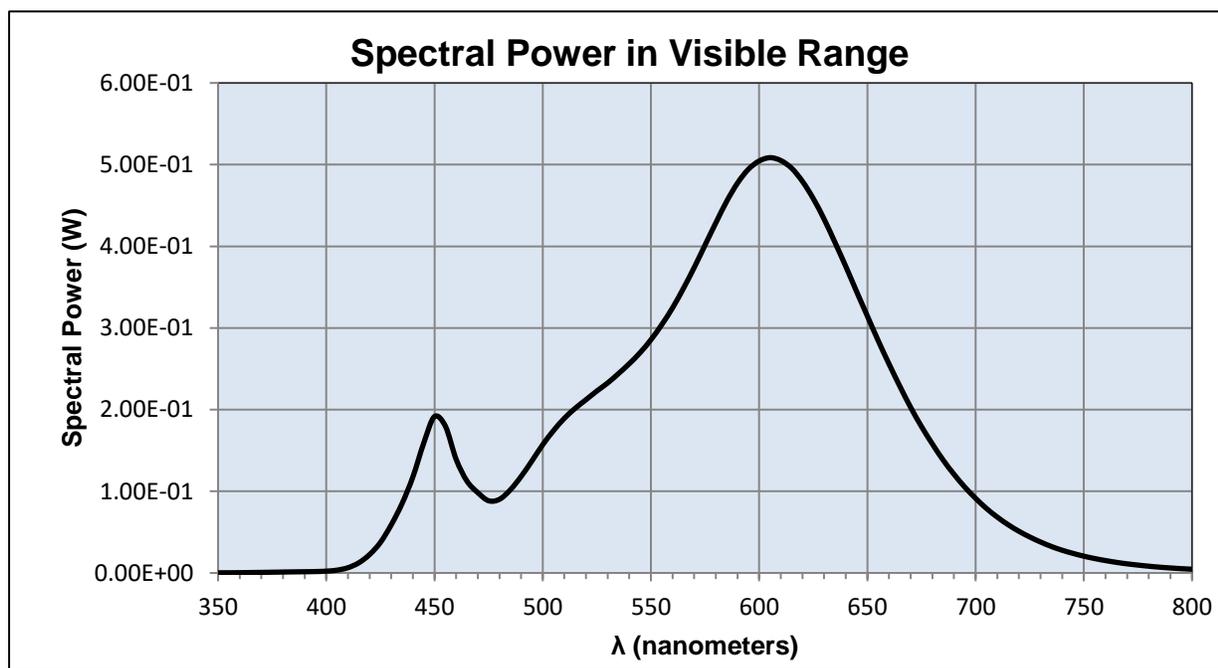
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 2.05291 (A)
Input Power: 246.7 (W)
Input Power Factor: 0.996215
Current ATHD: 4.81505 (%)

Photometric measurements:

Luminous Flux: 23912.53 (lumens)
Luminous Efficacy: 96.9 (lumens/W)
Correlated Color Temperature (CCT): 2818 (K)
CRI -Ra: 83.0113
CRI -R9: 9.2889
DUV: -0.0006
CIE Coordinate (x): 0.449
CIE Coordinate (y): 0.406
CIE Coordinate (u'): 0.258
CIE Coordinate (v'): 0.349
TM30_Rf: 84.0
TM30_Rg: 96.5
TM30_Rcs_hue1: -11.07 %



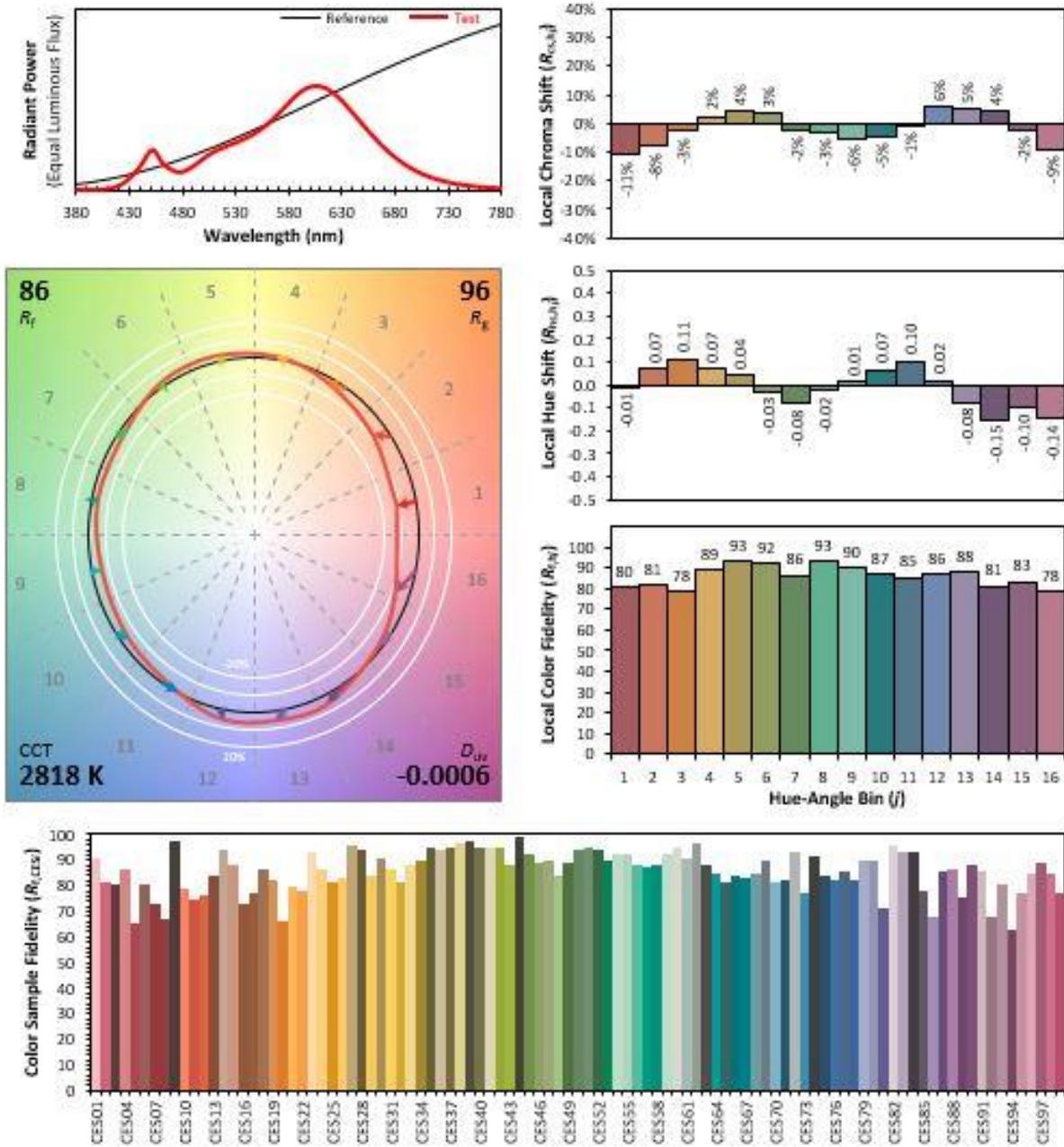
Test Results: Integrating Sphere

Results continued from previous page.

Tabulated Spectral Power in Visible Range:

λ (nm)	(W/nm)						
350	0.00019	490	0.11807	630	0.43333	770	0.01116
355	0.00026	495	0.13714	635	0.40488	775	0.00965
360	0.00034	500	0.15706	640	0.37546	780	0.00826
365	0.00055	505	0.17438	645	0.34469	785	0.00709
370	0.00071	510	0.18939	650	0.31454	790	0.00613
375	0.00092	515	0.20161	655	0.28440	795	0.00528
380	0.00114	520	0.21214	660	0.25585	800	0.00458
385	0.00135	525	0.22276	665	0.22859		
390	0.00152	530	0.23266	670	0.20273		
395	0.00174	535	0.24409	675	0.17930		
400	0.00223	540	0.25625	680	0.15805		
405	0.00348	545	0.26974	685	0.13826		
410	0.00643	550	0.28559	690	0.12088		
415	0.01240	555	0.30409	695	0.10518		
420	0.02253	560	0.32471	700	0.09143		
425	0.03736	565	0.34847	705	0.07904		
430	0.05893	570	0.37408	710	0.06845		
435	0.08497	575	0.40155	715	0.05913		
440	0.11754	580	0.42885	720	0.05109		
445	0.15887	585	0.45509	725	0.04411		
450	0.19158	590	0.47736	730	0.03793		
455	0.17987	595	0.49423	735	0.03245		
460	0.13908	600	0.50443	740	0.02782		
465	0.11249	605	0.50847	745	0.02397		
470	0.09838	610	0.50502	750	0.02056		
475	0.08841	615	0.49559	755	0.01767		
480	0.09017	620	0.47949	760	0.01517		
485	0.10172	625	0.45845	765	0.01301		

IES TM-30-18 Color Rendition Report



Notes: This is a recommended method for displaying ANSIES TM-30-18 information.

x **0.4495**
 y **0.4064**
 u' **0.2577**
 v' **0.5242**

CIE 13.3-1995 (CRI)
R_a 83
R_s 9

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21068.
Dialight unit model number F1x-N6W2-Fxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 2.0655 (A)
Input Power: 246.9 (W)
Power Factor: 0.9957

Photometric measurements:

Absolute Luminous Flux: 24041.2 (lumens)
Luminous Efficacy: 97.4 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	15027	15033	15020	15018	15027	
5.00	15111	15227	15127	14660	14272	1503
15.00	12464	13289	12369	11830	11269	3431
25.00	10602	10821	10547	10265	9999	4810
35.00	9372	9602	9361	8980	8573	5717
45.00	7370	7677	7424	6874	6240	5421
55.00	4130	4547	4213	3393	2022	3088
65.00	699	812	702	573	481	625
75.00	298	307	305	248	218	284
85.00	82	100	82	59	33	38
90.00	10	22	12	3	1	

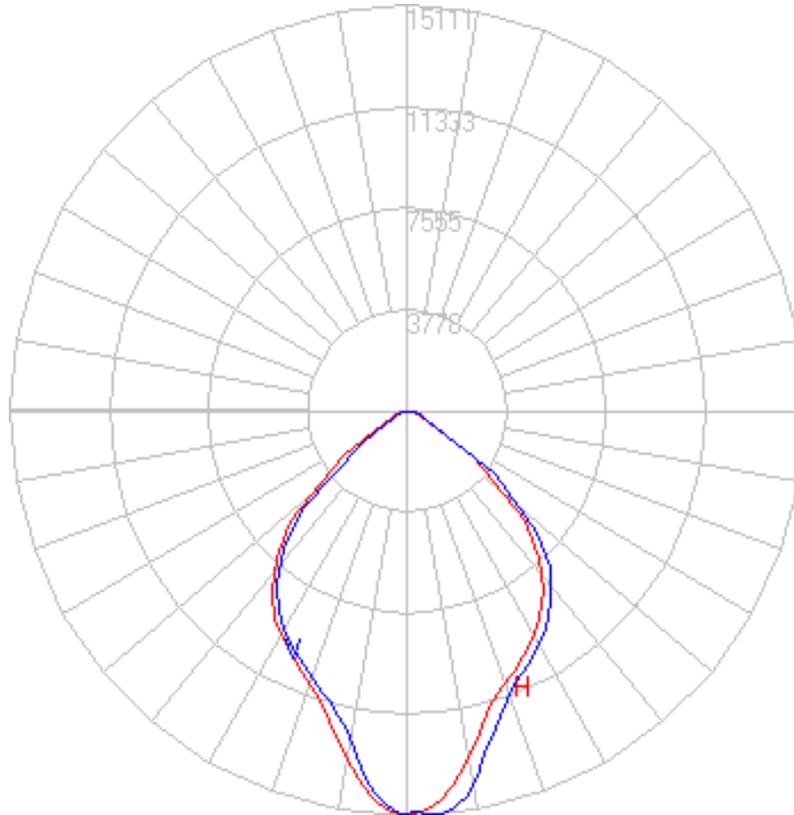
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	9470.71	39.39	39.39
0 to 40	15070.24	62.69	62.69
0 to 60	23065.41	95.94	95.94
0 to 90	24041.20	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	24041.20	100.00	100.00

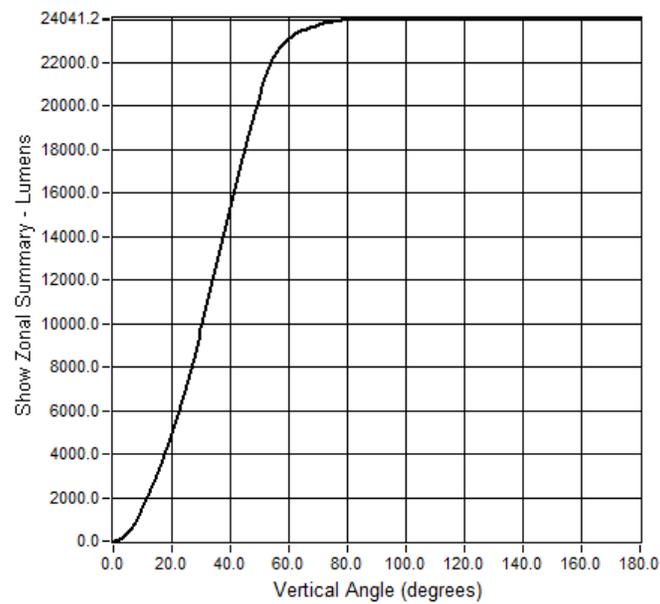
Test Results: Goniometer

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Polar Plot:



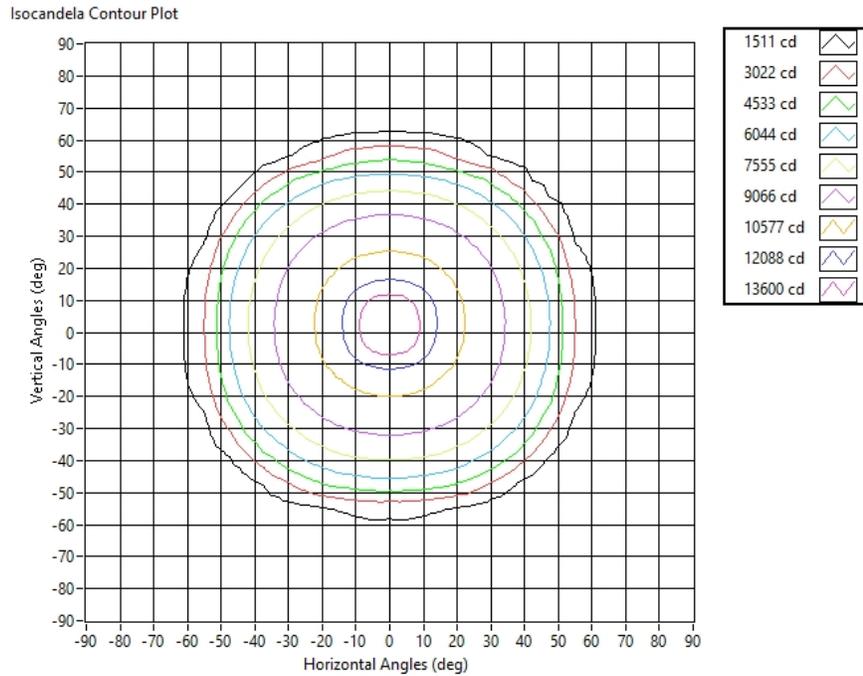
Zonal Flux Graph



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	3.71	3.72	3762.3
4	7.41	7.44	940.6
6	11.12	11.17	418.0
8	14.82	14.89	235.1
10	18.53	18.61	150.5
12	22.23	22.33	104.5
14	25.94	26.05	76.8
16	29.64	29.77	58.8
18	33.35	33.50	46.4
20	37.05	37.22	37.6

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.

Test Report Issued By:

Richard Huegi
 Dialight Optics Laboratory
 Senior Optical Engineering Technician
 Lighting Division

Test Report Reviewed and Approved By:

Vishnu Shastry
 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory