

Test Report

Report Number: L21031

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-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 19, 2021 through March 19, 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: L21031
Manufacturer: Dialight Corporation
Product Name: No Window, NEMA 7x6, 70 CRI CW, 120-277V, 30K
Description: F2 - Flood Light
Model Number: F2x-N7B2-Fxxx-xxx

Report Summary

Sample number L21031
Dialight unit model number F2x-N7B2-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:	33277 (lumens)	33170 (lumens)
Electrical Power:	206.5 (W)	206.3 (W)
Luminous Efficacy:	161.2 (lumens/W)	160.8 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 206.5 (W)
Power Factor (120VAC): 0.994708
Current ATHD % (120VAC): 5.23271
Input Power (277VAC): 199.6 (W)
Power Factor (277VAC): 0.949
Current ATHD % (277VAC): 9.873

Color Measurements:

Correlated Color Temperature (CCT): 4941
Color Rendering Index (CRI): 70.3601
Chromaticity Coordinate (x): 0.347
Chromaticity Coordinate (y): 0.359
Chromaticity Coordinate (u'): 0.210
Chromaticity Coordinate (v'): 0.326
DUV: 0.0027

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21031.

Dialight unit model number F2x-N7B2-Fxxx-xxx

Test Conditions:

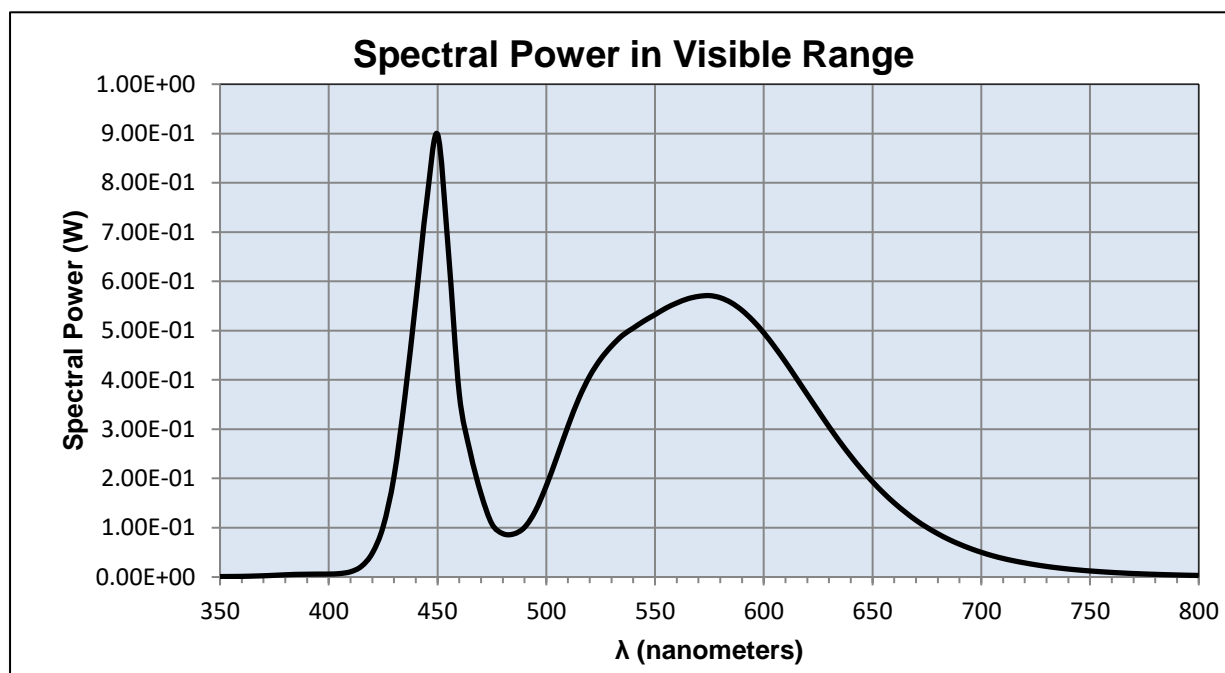
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 1.72725 (A)
Input Power: 206.5 (W)
Input Power Factor: 0.994708
Current ATHD: 5.23271 (%)

Photometric measurements:

Luminous Flux: 33276.92 (lumens)
Luminous Efficacy: 161.2 (lumens/W)
Correlated Color Temperature (CCT): 4941 (K)
CRI -Ra: 70.3601
CRI -R9: -38.0689
DUV: 0.0027
CIE Coordinate (x): 0.347
CIE Coordinate (y): 0.359
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.326
TM30_Rf: 68.7
TM30_Rg: 93.3
TM30_Rcs_hue1: -18.23 %



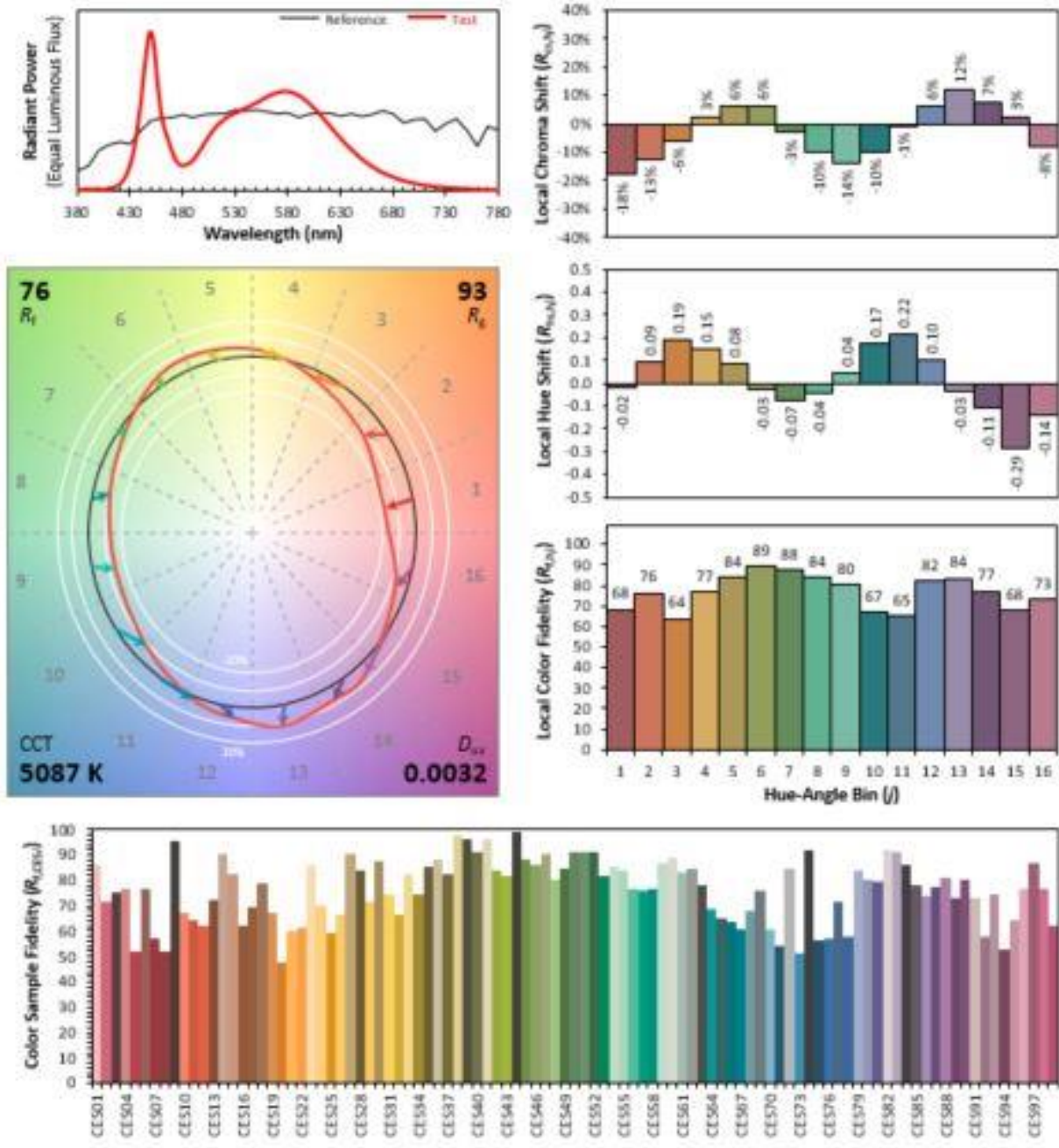
Test Results: Integrating Sphere

Results continued from previous page.

Tabulated Spectral Power in Visible Range:

λ (nm)	(W/nm)	λ (nm)	(W/nm)	λ (nm)	(W/nm)	λ (nm)	(W/nm)
350	0.00088	490	0.10073	630	0.30505	770	0.00709
355	0.00105	495	0.13419	635	0.27416	775	0.00623
360	0.00134	500	0.18502	640	0.24525	780	0.00543
365	0.00187	505	0.24478	645	0.21824	785	0.00476
370	0.00256	510	0.30642	650	0.19338	790	0.00416
375	0.00350	515	0.36253	655	0.17074	795	0.00362
380	0.00453	520	0.40780	660	0.15028	800	0.00318
385	0.00533	525	0.44225	665	0.13194		
390	0.00567	530	0.46866	670	0.11514		
395	0.00593	535	0.49022	675	0.10072		
400	0.00604	540	0.50517	680	0.08791		
405	0.00701	545	0.51970	685	0.07642		
410	0.01072	550	0.53248	690	0.06659		
415	0.02168	555	0.54558	695	0.05784		
420	0.04832	560	0.55602	700	0.05019		
425	0.10244	565	0.56458	705	0.04341		
430	0.20416	570	0.56943	710	0.03769		
435	0.36588	575	0.57103	715	0.03281		
440	0.55955	580	0.56671	720	0.02864		
445	0.76154	585	0.55672	725	0.02487		
450	0.89846	590	0.54108	730	0.02153		
455	0.66063	595	0.52047	735	0.01870		
460	0.37124	600	0.49555	740	0.01624		
465	0.25403	605	0.46699	745	0.01413		
470	0.16894	610	0.43619	750	0.01232		
475	0.10781	615	0.40339	755	0.01078		
480	0.08807	620	0.37039	760	0.00934		
485	0.08739	625	0.33753	765	0.00815		

IES TM-30-18 Color Rendition Report



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

x 0.3432
y 0.3565
u' 0.2083
v' 0.4868

CIE 13.3-1995
(CRI)
R_a 74
R_g -37

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21031.
Dialight unit model number F2x-N7B2-Fxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 1.7317 (A)
Input Power: 206.3 (W)
Power Factor: 0.9946

Photometric measurements:

Absolute Luminous Flux: 33170.4 (lumens)
Luminous Efficacy: 160.8 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	21779	21779	21779	21779	21779	
5.00	21540	21656	21602	20864	19955	2133
15.00	15761	18119	19526	16664	13525	4519
25.00	11853	14322	17847	13019	10846	5898
35.00	9633	11715	16235	11004	8601	6638
45.00	6563	9836	13290	8714	5226	5936
55.00	2838	2500	9379	1986	1275	2708
65.00	746	786	2168	692	624	877
75.00	377	317	328	277	253	330
85.00	68	71	59	52	32	30
90.00	0	0	0	0	0	

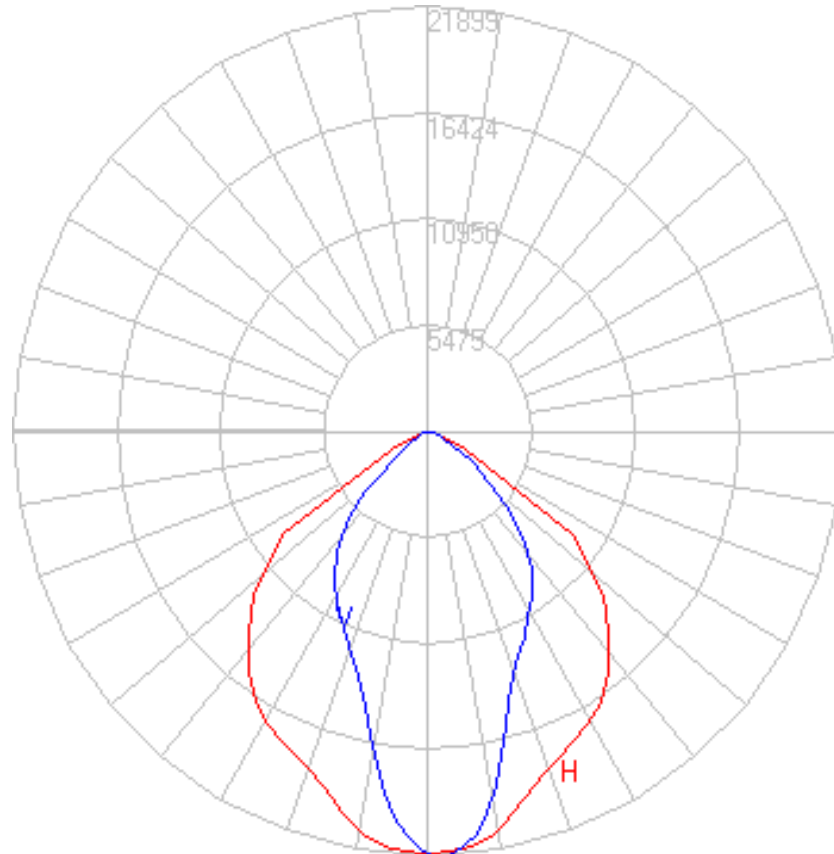
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	13398.46	40.39	40.39
0 to 40	20993.73	63.29	63.29
0 to 60	31791.37	95.84	95.84
0 to 90	33170.42	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	33170.42	100.00	100.00

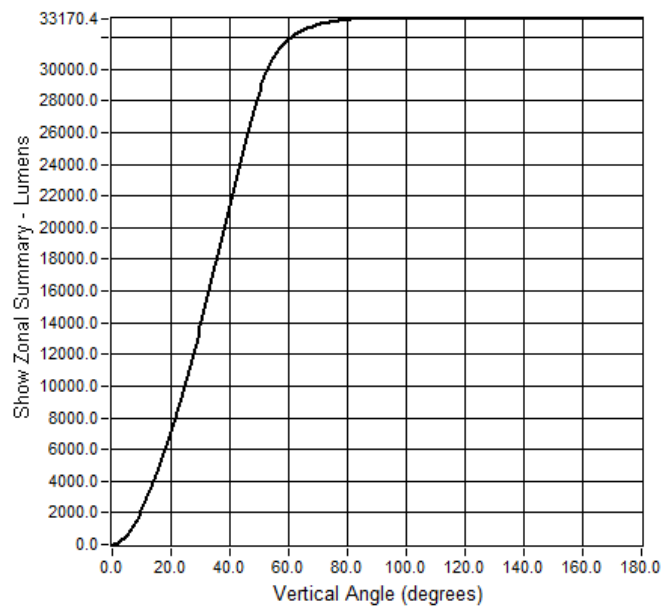
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



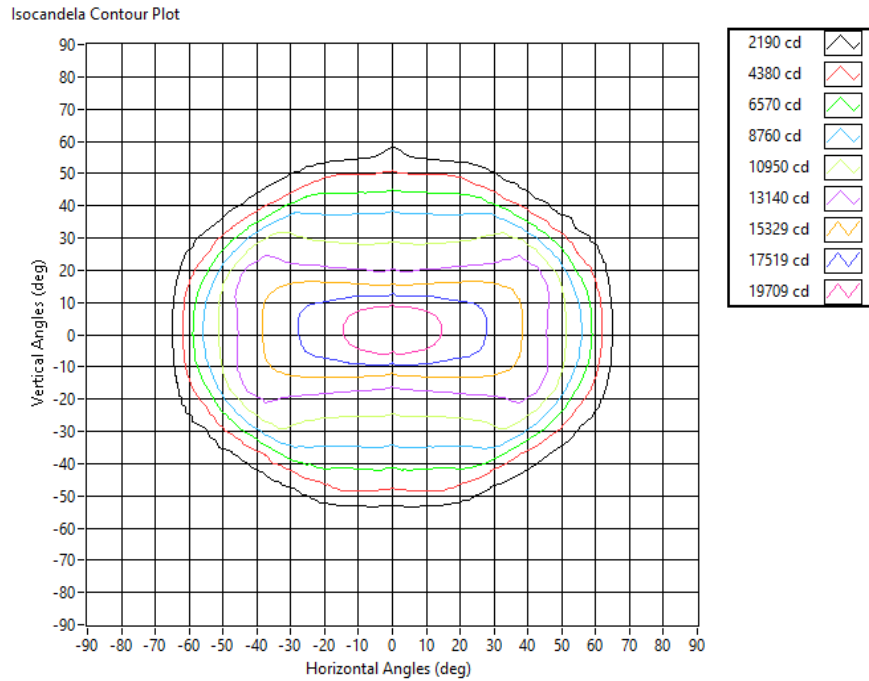
Zonal Flux Graph



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	2.05	5.21	5444.7
4	4.10	10.42	1361.2
6	6.15	15.64	605.0
8	8.20	20.85	340.3
10	10.24	26.06	217.8
12	12.29	31.27	151.2
14	14.34	36.49	111.1
16	16.39	41.70	85.1
18	18.44	46.91	67.2
20	20.49	52.12	54.4

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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 Optical Engineer
 Approved Signatory