

Test Report

Report Number: L21033

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-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 22, 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

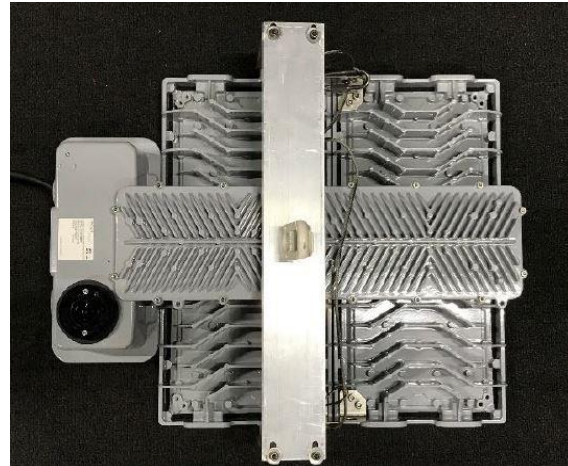
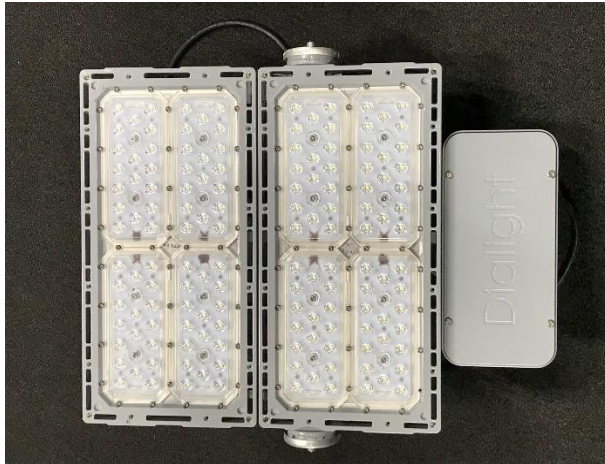
Description of sample:

Sample Number: L21033
Manufacturer: Dialight Corporation
Product Name: No Window, NEMA 7x6, 70 CRI CW, 347-480V, 36K
Description: F2 - Flood Light
Model Number: F2x-N7B5-Hxxx-xxx

Report Summary

Sample number L21033
Dialight unit model number F2x-N7B5-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:	37878 (lumens)	38121 (lumens)
Electrical Power:	240.4 (W)	240.2 (W)
Luminous Efficacy:	157.6 (lumens/W)	158.7 (lumens/W)

Electrical Measurements:

Input Power (347VAC): 240.4 (W)
 Power Factor (347VAC): 0.981164
 Current ATHD % (347VAC): 6.97143
 Input Power (480VAC): 239.5 (W)
 Power Factor (480VAC): 0.9488
 Current ATHD % (480VAC): 10.41

Color Measurements:

Correlated Color Temperature (CCT): 4972
 Color Rendering Index (CRI): 70.5365
 Chromaticity Coordinate (x): 0.346
 Chromaticity Coordinate (y): 0.357
 Chromaticity Coordinate (u'): 0.210
 Chromaticity Coordinate (v'): 0.325
 DUV: 0.0021

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21033.

Dialight unit model number F2x-N7B5-Hxxx-xxx

Test Conditions:

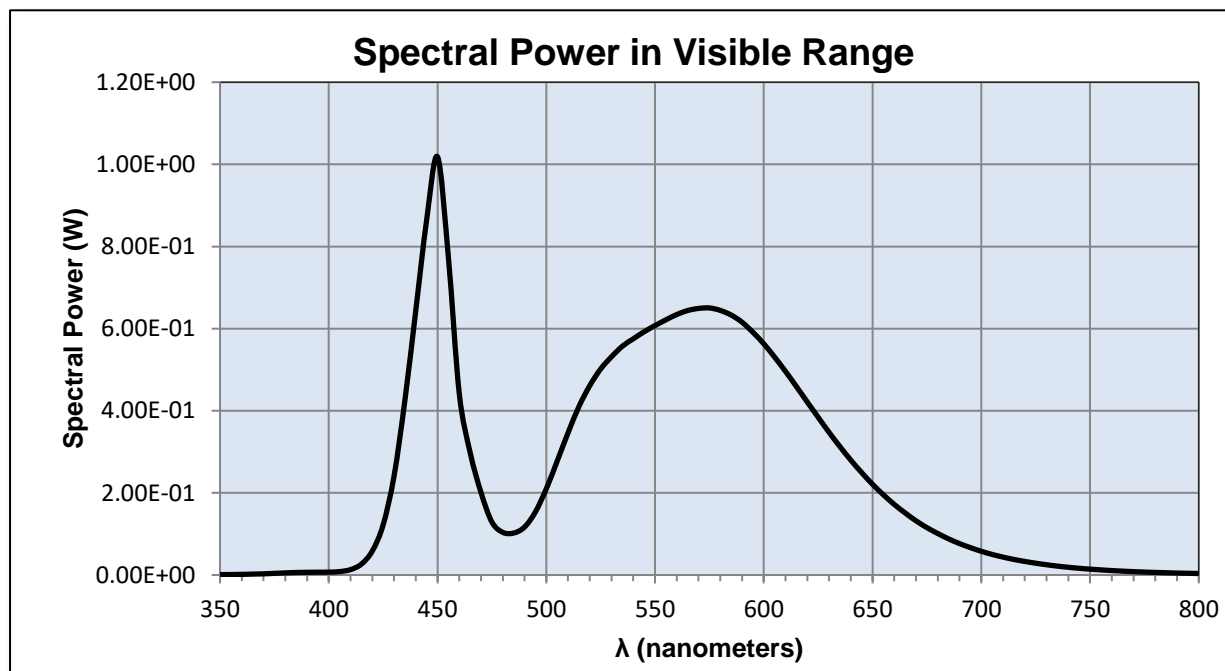
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 347 (VAC)
Input Current: 0.703747 (A)
Input Power: 240.4 (W)
Input Power Factor: 0.981164
Current ATHD: 6.97143 (%)

Photometric measurements:

Luminous Flux: 37878.07 (lumens)
Luminous Efficacy: 157.6 (lumens/W)
Correlated Color Temperature (CCT): 4972 (K)
CRI -Ra: 70.5365
CRI -R9: -36.8589
DUV: 0.0021
CIE Coordinate (x): 0.346
CIE Coordinate (y): 0.357
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.325
TM30_Rf: 68.7
TM30_Rg: 93.4
TM30_Rcs_hue1: -18.16 %



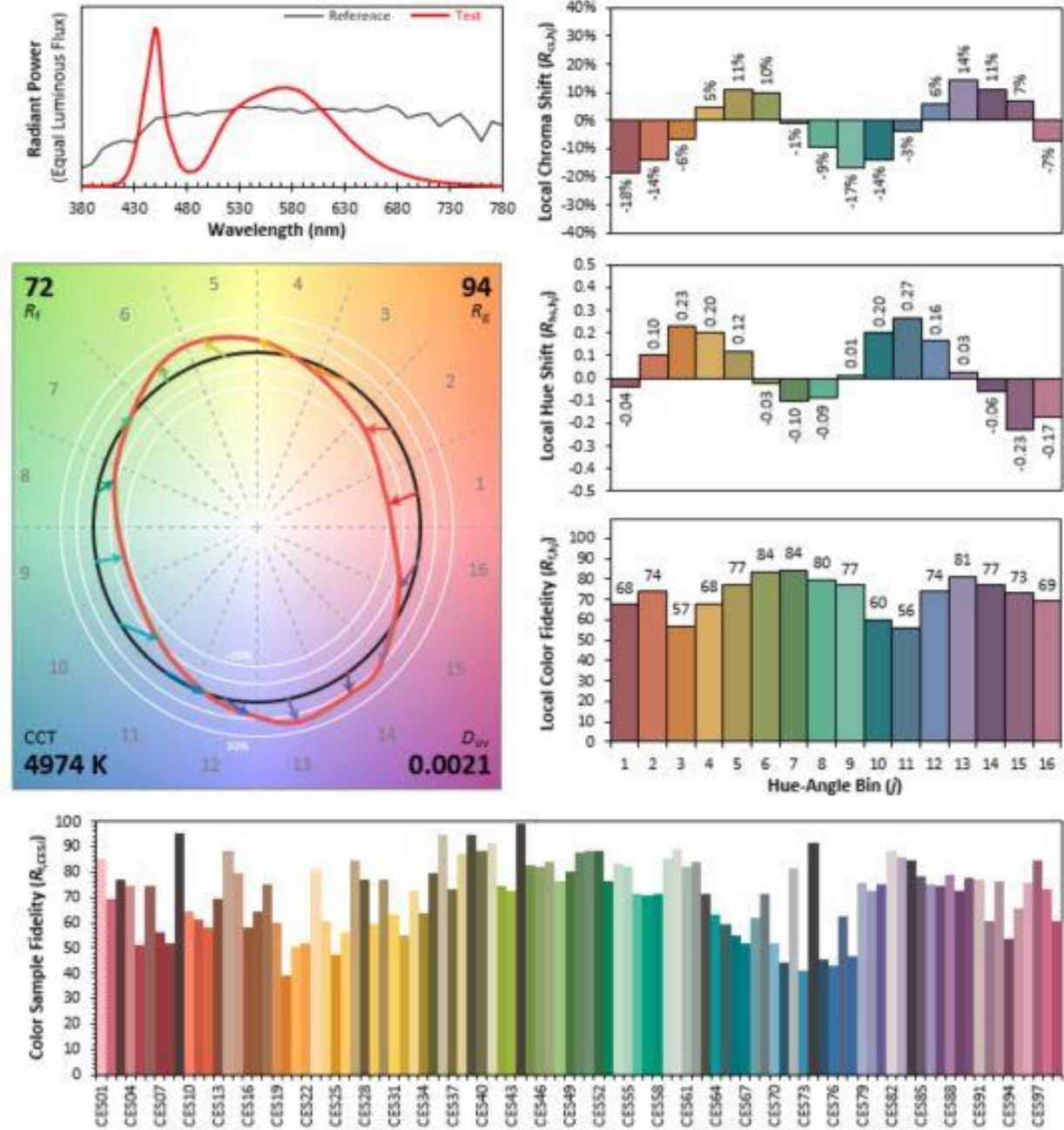
Test Results: Integrating Sphere

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	0.00103	490	0.11672	630	0.34751	770	0.00826
355	0.00123	495	0.15362	635	0.31279	775	0.00723
360	0.00161	500	0.20977	640	0.27980	780	0.00633
365	0.00223	505	0.27722	645	0.24943	785	0.00555
370	0.00293	510	0.34615	650	0.22100	790	0.00485
375	0.00410	515	0.41004	655	0.19538	795	0.00429
380	0.00521	520	0.46115	660	0.17188	800	0.00373
385	0.00619	525	0.50165	665	0.15112		
390	0.00661	530	0.53150	670	0.13201		
395	0.00686	535	0.55720	675	0.11545		
400	0.00706	540	0.57518	680	0.10109		
405	0.00843	545	0.59238	685	0.08795		
410	0.01322	550	0.60735	690	0.07654		
415	0.02661	555	0.62144	695	0.06671		
420	0.05836	560	0.63431	700	0.05781		
425	0.12229	565	0.64403	705	0.05013		
430	0.24073	570	0.64910	710	0.04369		
435	0.42555	575	0.65035	715	0.03790		
440	0.64390	580	0.64436	720	0.03309		
445	0.86452	585	0.63308	725	0.02880		
450	1.01829	590	0.61560	730	0.02502		
455	0.77288	595	0.59122	735	0.02167		
460	0.44118	600	0.56310	740	0.01886		
465	0.29829	605	0.53056	745	0.01638		
470	0.20085	610	0.49575	750	0.01431		
475	0.12900	615	0.45900	755	0.01250		
480	0.10392	620	0.42136	760	0.01086		
485	0.10222	625	0.38421	765	0.00949		

IES TM-30-18 Color Rendition Report



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

x 0.3463
 y 0.3568
 u' 0.2102
 v' 0.4873

CIE 13.3-1995 (CRI)	
R_a	71
R_g	-37

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21033.
Dialight unit model number F2x-N7B5-Hxxx-xxx

Electrical Measurements:

Input Voltage: 347 (VAC)
Input current: 0.7028 (A)
Input Power: 240.2 (W)
Power Factor: 0.981

Photometric measurements:

Absolute Luminous Flux: 38120.8 (lumens)
Luminous Efficacy: 158.7 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	23826	23791	23900	23884	23826	
5.00	23427	23646	23659	22619	21932	2330
15.00	16834	19771	20748	17571	14464	4831
25.00	12547	15978	18959	13303	11660	6293
35.00	10303	13101	16899	11227	9204	7067
45.00	7111	10638	13659	8222	5449	6188
55.00	2629	2355	8378	1643	1344	2502
65.00	796	702	1526	662	632	802
75.00	350	280	268	257	286	317
85.00	57	48	32	38	40	25
90.00	4	1	1	1	1	

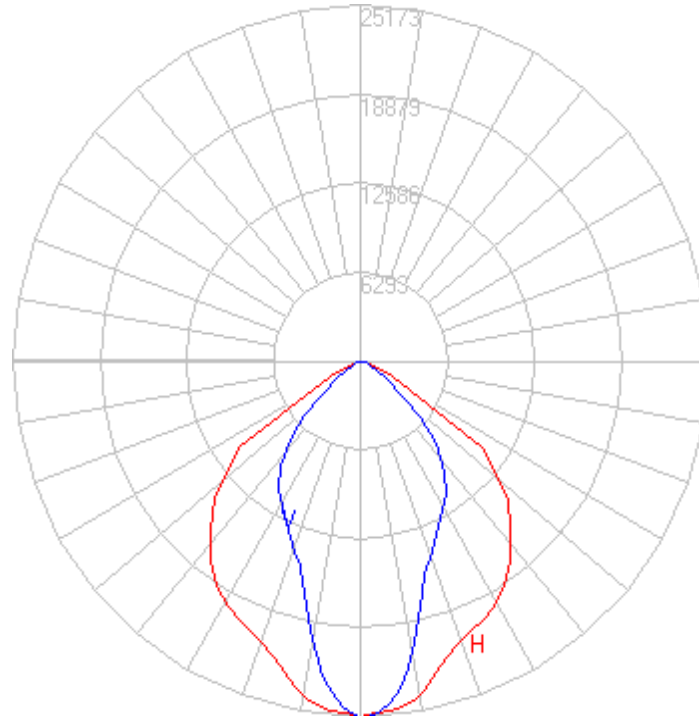
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	14413.14	40.65	40.65
0 to 40	22548.89	63.60	63.60
0 to 60	34015.61	95.94	95.94
0 to 90	35454.81	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	35454.81	100.00	100.00

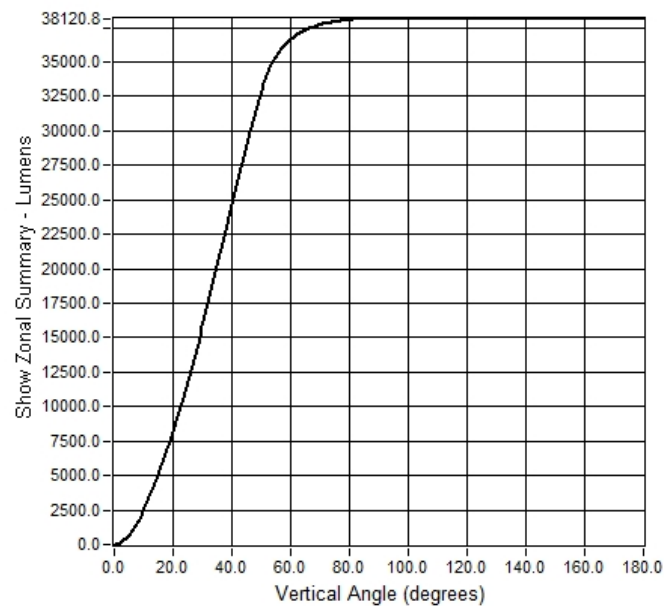
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



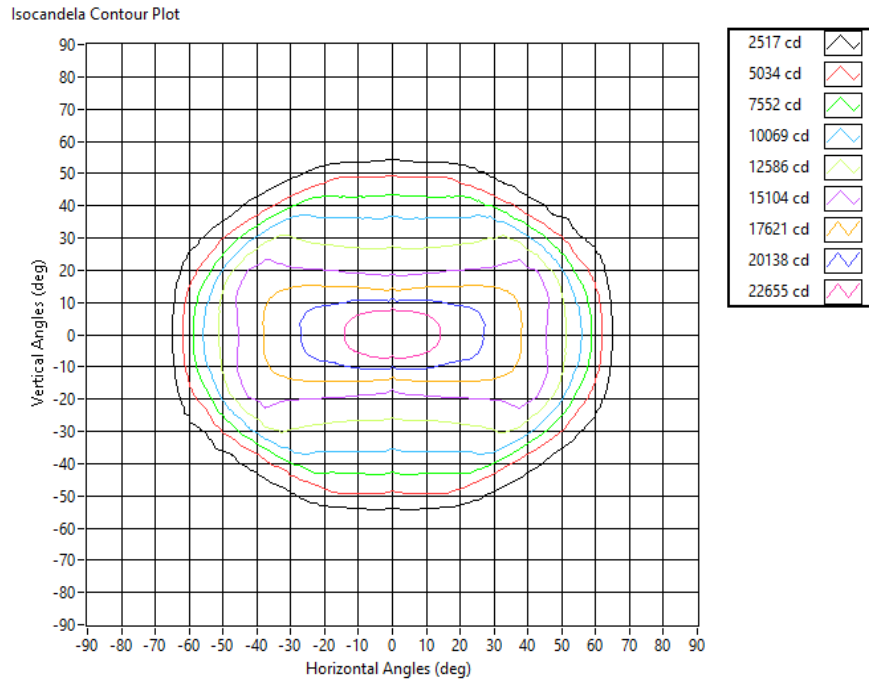
Zonal Flux Graph



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	1.99	5.25	6279.2
4	3.98	10.49	1569.8
6	5.97	15.74	697.7
8	7.96	20.99	392.4
10	9.95	26.24	251.2
12	11.94	31.48	174.4
14	13.94	36.73	128.1
16	15.93	41.98	98.1
18	17.92	47.23	77.5
20	19.91	52.47	62.8

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