

Test Report

Report Number: L21035

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-Nxxx-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 25, 2021 through March 25, 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

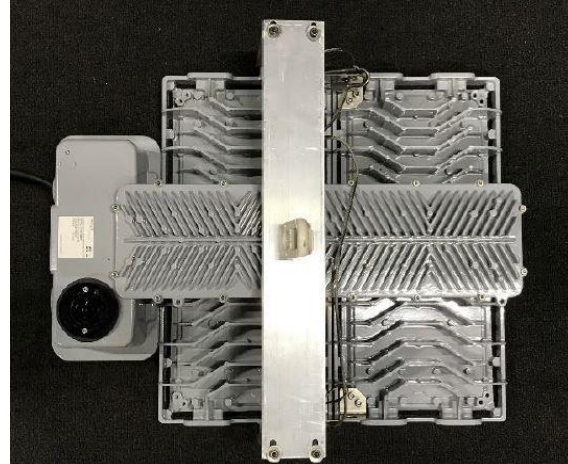
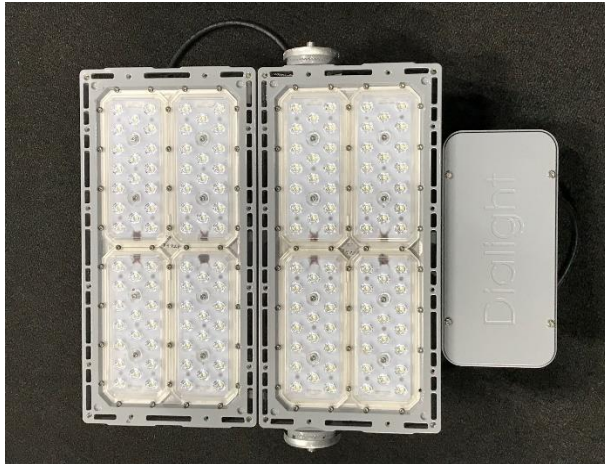
Description of sample:

Sample Number: L21035
Manufacturer: Dialight Corporation
Product Name: No Window, NEMA 7x6, 70 CRI CW, 347-480V, 60K
Description: F2 - Flood Light
Model Number: F2x-N7B5-Nxxx-xxx

Report Summary

Sample number L21035
Dialight unit model number F2x-N7B5-Nxxx-xxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	65714 (lumens)	65627 (lumens)
Electrical Power:	502.5 (W)	500.2 (W)
Luminous Efficacy:	130.8 (lumens/W)	131.2 (lumens/W)

Electrical Measurements:

Input Power (347VAC): 502.5 (W)
Power Factor (347VAC): 0.987593
Current ATHD % (347VAC): 6.3193
Input Power (480VAC): 499.1 (W)
Power Factor (480VAC): 0.9696
Current ATHD % (480VAC): 9.93

Color Measurements:

Correlated Color Temperature (CCT): 5188
Color Rendering Index (CRI): 71.7484
Chromaticity Coordinate (x): 0.340
Chromaticity Coordinate (y): 0.347
Chromaticity Coordinate (u'): 0.210
Chromaticity Coordinate (v'): 0.321
DUV: -0.0003

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21035.

Dialight unit model number F2x-N7B5-Nxxx-xxx

Test Conditions:

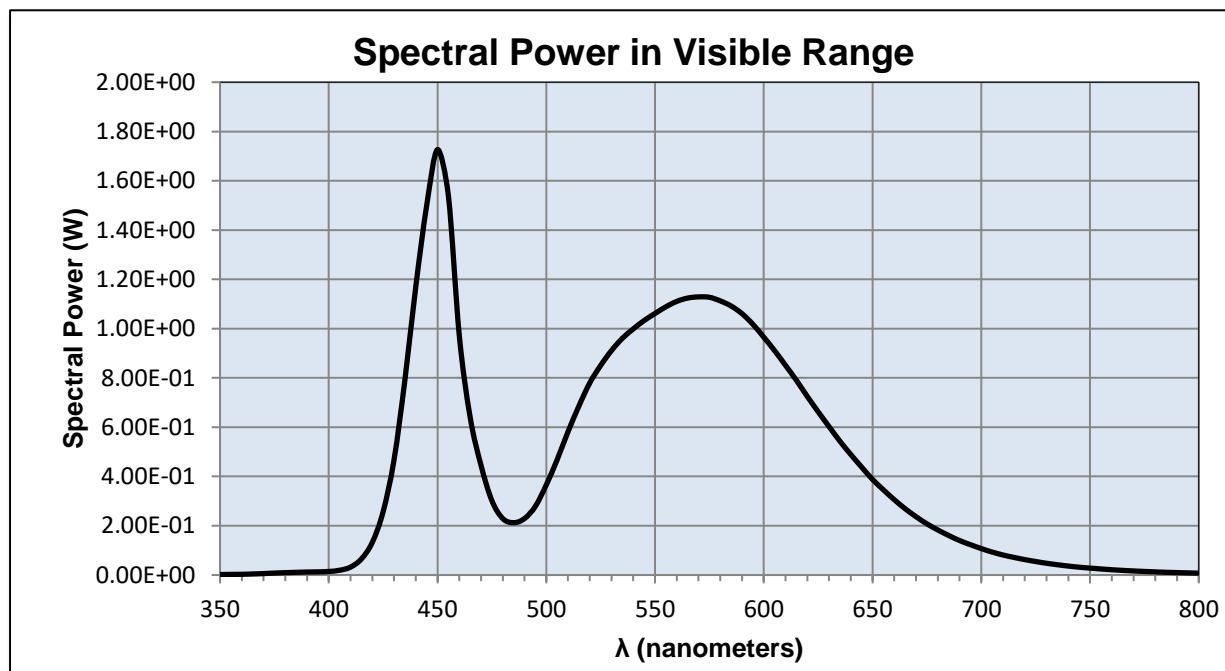
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 347 (VAC)
Input Current: 1.47473 (A)
Input Power: 502.5 (W)
Input Power Factor: 0.987593
Current ATHD: 6.3193 (%)

Photometric measurements:

Luminous Flux: 65714.02 (lumens)
Luminous Efficacy: 130.8 (lumens/W)
Correlated Color Temperature (CCT): 5188 (K)
CRI -Ra: 71.7484
CRI -R9: -30.8805
DUV: -0.0003
CIE Coordinate (x): 0.340
CIE Coordinate (y): 0.347
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.321
TM30_Rf: 69.1
TM30_Rg: 93.6
TM30_Rcs_hue1: -18.19 %



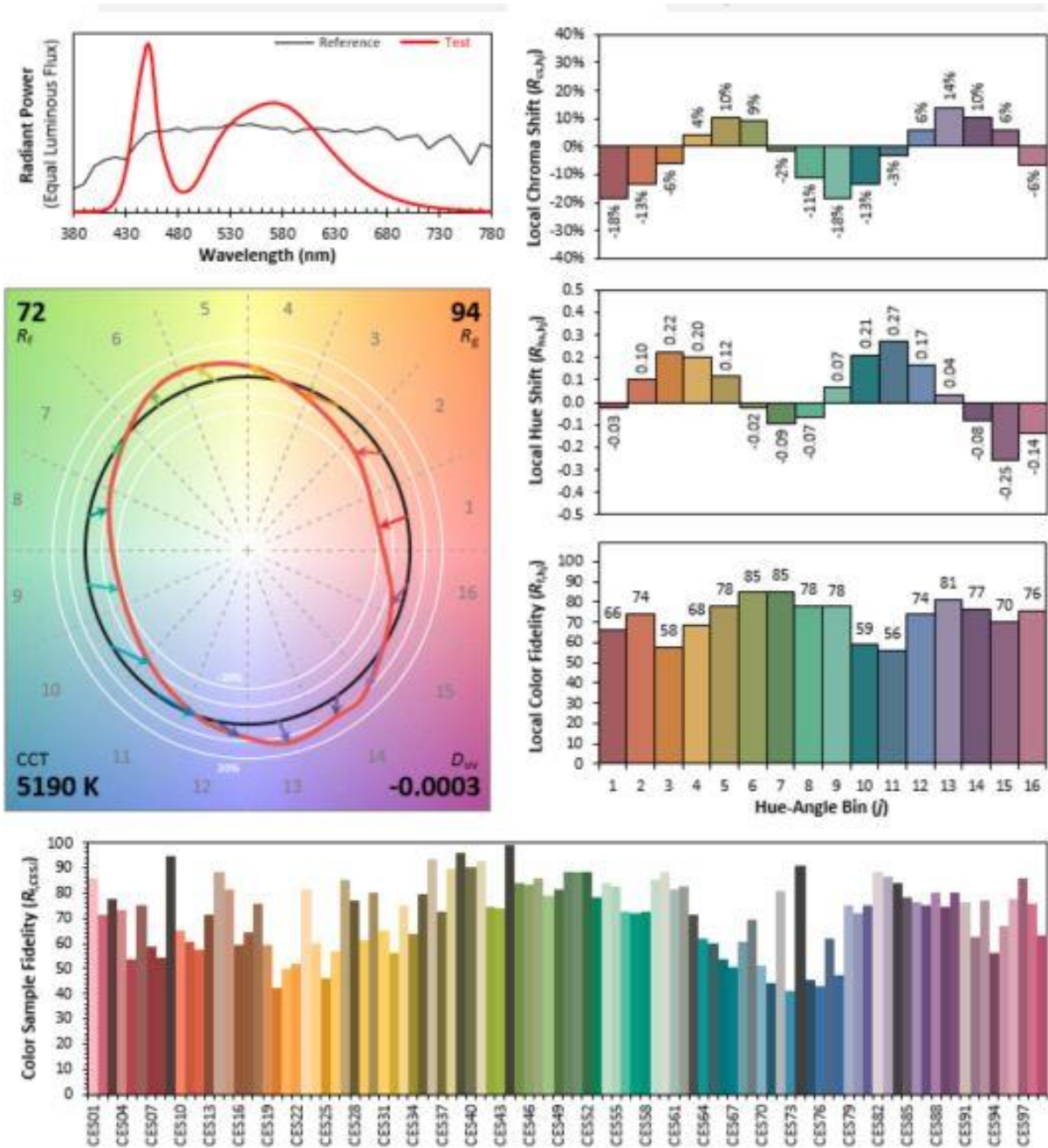
Test Results: Integrating Sphere

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	0.00205	490	0.22932	630	0.60247	770	0.01647
355	0.00261	495	0.27904	635	0.54326	775	0.01460
360	0.00302	500	0.36570	640	0.48916	780	0.01277
365	0.00416	505	0.46817	645	0.43798	785	0.01112
370	0.00592	510	0.58160	650	0.38809	790	0.00984
375	0.00790	515	0.68578	655	0.34575	795	0.00870
380	0.00956	520	0.77957	660	0.30582	800	0.00756
385	0.01097	525	0.85041	665	0.26899		
390	0.01222	530	0.91122	670	0.23686		
395	0.01286	535	0.96071	675	0.20778		
400	0.01444	540	0.99876	680	0.18293		
405	0.01941	545	1.03287	685	0.16060		
410	0.03218	550	1.06140	690	0.14002		
415	0.06524	555	1.08856	695	0.12312		
420	0.13219	560	1.11054	700	0.10747		
425	0.25750	565	1.12396	705	0.09325		
430	0.46746	570	1.12871	710	0.08128		
435	0.79197	575	1.12721	715	0.07147		
440	1.16994	580	1.11248	720	0.06263		
445	1.49855	585	1.09167	725	0.05485		
450	1.72664	590	1.06059	730	0.04769		
455	1.53805	595	1.01770	735	0.04176		
460	0.97217	600	0.96531	740	0.03629		
465	0.64051	605	0.91037	745	0.03183		
470	0.44510	610	0.85085	750	0.02806		
475	0.30168	615	0.79018	755	0.02466		
480	0.22908	620	0.72494	760	0.02150		
485	0.21241	625	0.66259	765	0.01883		

IES TM-30-18 Color Rendition Report



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

x 0.3399
 y 0.3467
 u' 0.2098
 v' 0.4815

CIE 13.3-1995
(CRI)
 R_a 72
 R_g -31

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21035.
Dialight unit model number F2x-N7B5-Nxxx-xxx

Electrical Measurements:

Input Voltage: 347 (VAC)
Input current: 1.463 (A)
Input Power: 500.2 (W)
Power Factor: 0.9877

Photometric measurements:

Absolute Luminous Flux: 65627 (lumens)
Luminous Efficacy: 131.2 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	44062	44062	44062	44062	44062	
5.00	42558	43497	44245	43533	41380	4334
15.00	29789	35635	41254	36017	28290	9145
25.00	22808	27098	36755	27497	22044	11773
35.00	18363	22384	33491	22894	17675	13260
45.00	11887	18801	27894	19488	11221	11999
55.00	3644	4780	20520	5043	3220	5327
65.00	1379	1473	4980	1627	1300	1834
75.00	612	605	701	658	596	659
85.00	96	136	147	158	93	62
90.00	0	0	0	0	0	

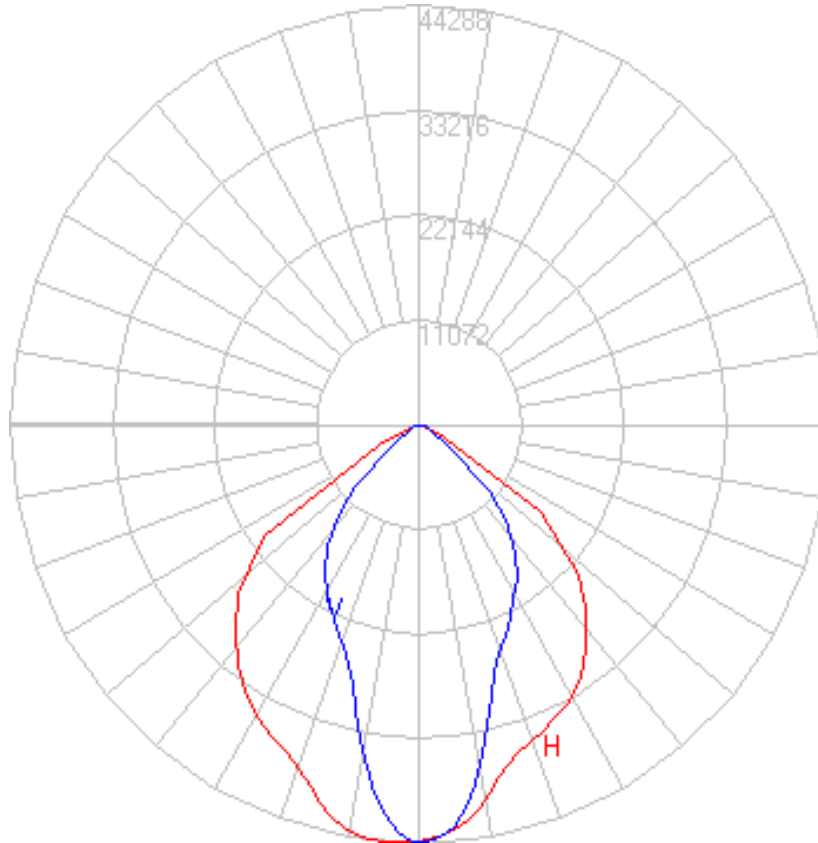
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	26745.73	40.75	40.75
0 to 40	41790.14	63.68	63.68
0 to 60	62966.36	95.95	95.95
0 to 90	65626.95	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	65626.95	100.00	100.00

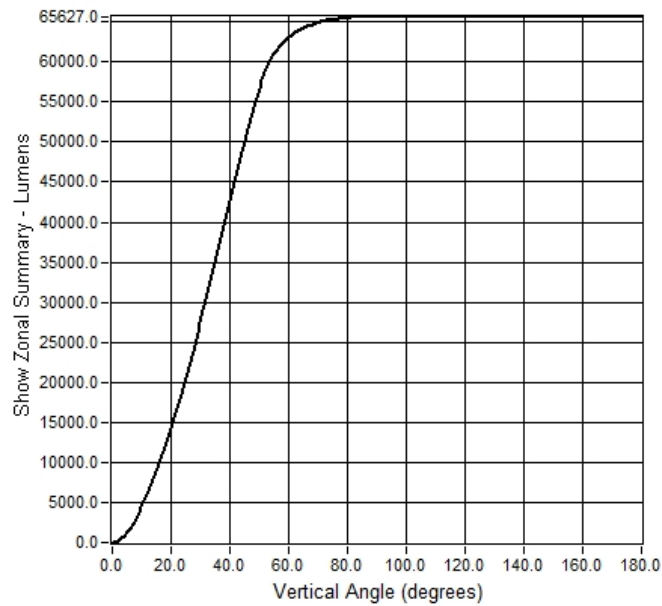
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



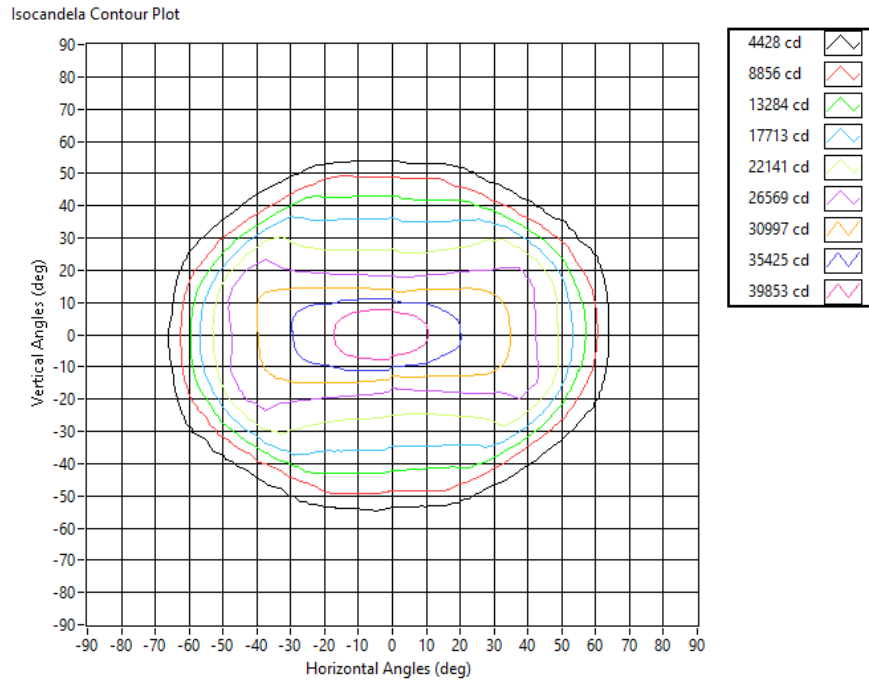
Zonal Flux Graph



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	1.97	4.99	11015.6
4	3.93	9.99	2753.9
6	5.90	14.98	1224.0
8	7.86	19.98	688.5
10	9.83	24.97	440.6
12	11.80	29.96	306.0
14	13.76	34.96	224.8
16	15.73	39.95	172.1
18	17.69	44.94	136.0
20	19.66	49.94	110.2

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