

Test Report

Report Number: L21029

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-Lxxx-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 17, 2021 through March 18, 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

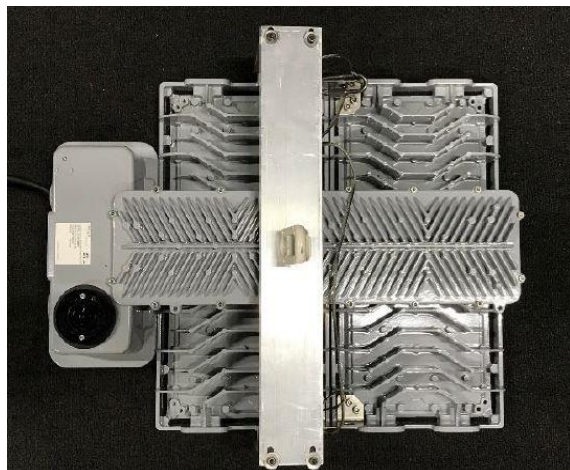
Description of sample:

Sample Number: L21029
Manufacturer: Dialight Corporation
Product Name: No Window, NEMA 7x6, 70 CRI CW, 120-277V, 48K
Description: F2 - Flood Light
Model Number: F2x-N7B2-Lxxx-xxx

Report Summary

Sample number L21029
Dialight unit model number F2x-N7B2-Lxxx-xxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	51427 (lumens)	51622 (lumens)
Electrical Power:	356.3 (W)	356.1 (W)
Luminous Efficacy:	144.4 (lumens/W)	145 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 356.3 (W)
Power Factor (120VAC): 0.994885
Current ATHD % (120VAC): 5.09389
Input Power (277VAC): 483.9 (W)
Power Factor (277VAC): 0.9674
Current ATHD % (277VAC): 9.375

Color Measurements:

Correlated Color Temperature (CCT): 5055
Color Rendering Index (CRI): 70.8408
Chromaticity Coordinate (x): 0.344
Chromaticity Coordinate (y): 0.352
Chromaticity Coordinate (u'): 0.210
Chromaticity Coordinate (v'): 0.323
DUV: 0.0010

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21029.

Dialight unit model number F2x-N7B2-Lxxx-xxx

Test Conditions:

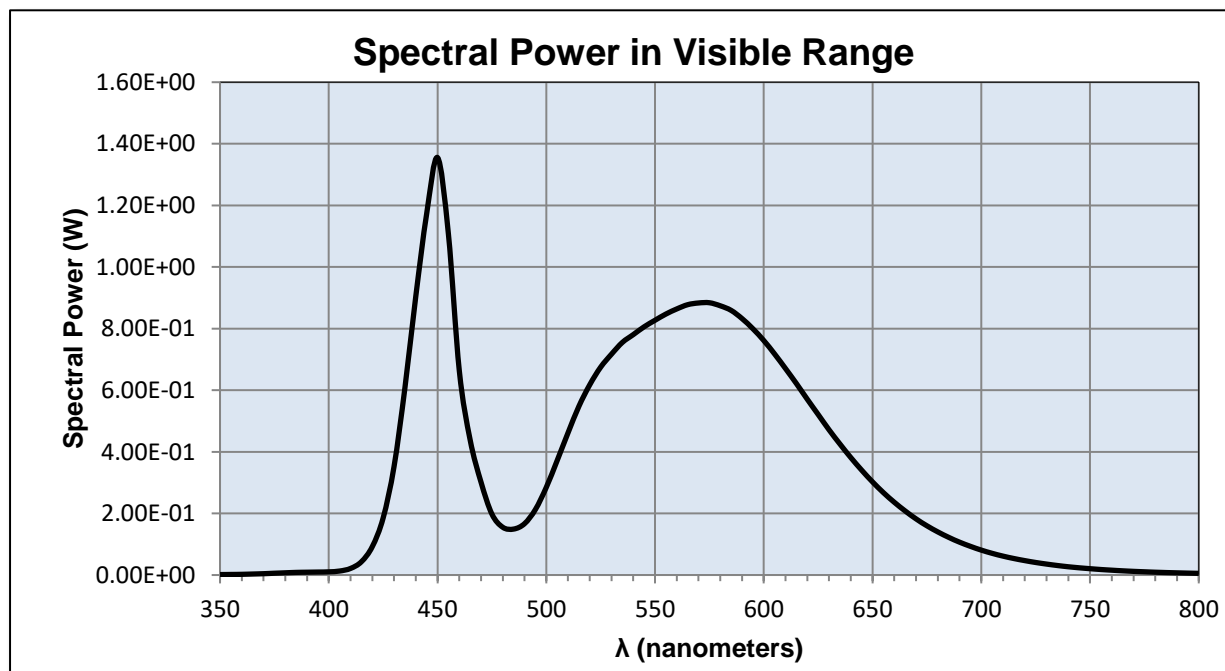
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 3.01797 (A)
Input Power: 356.3 (W)
Input Power Factor: 0.994885
Current ATHD: 5.09389 (%)

Photometric measurements:

Luminous Flux: 51426.7 (lumens)
Luminous Efficacy: 144.4 (lumens/W)
Correlated Color Temperature (CCT): 5055 (K)
CRI -Ra: 70.8408
CRI -R9: -35.5016
DUV: 0.0010
CIE Coordinate (x): 0.344
CIE Coordinate (y): 0.352
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.323
TM30_Rf: 68.8
TM30_Rg: 93.5
TM30_Rcs_hue1: -18.46 %



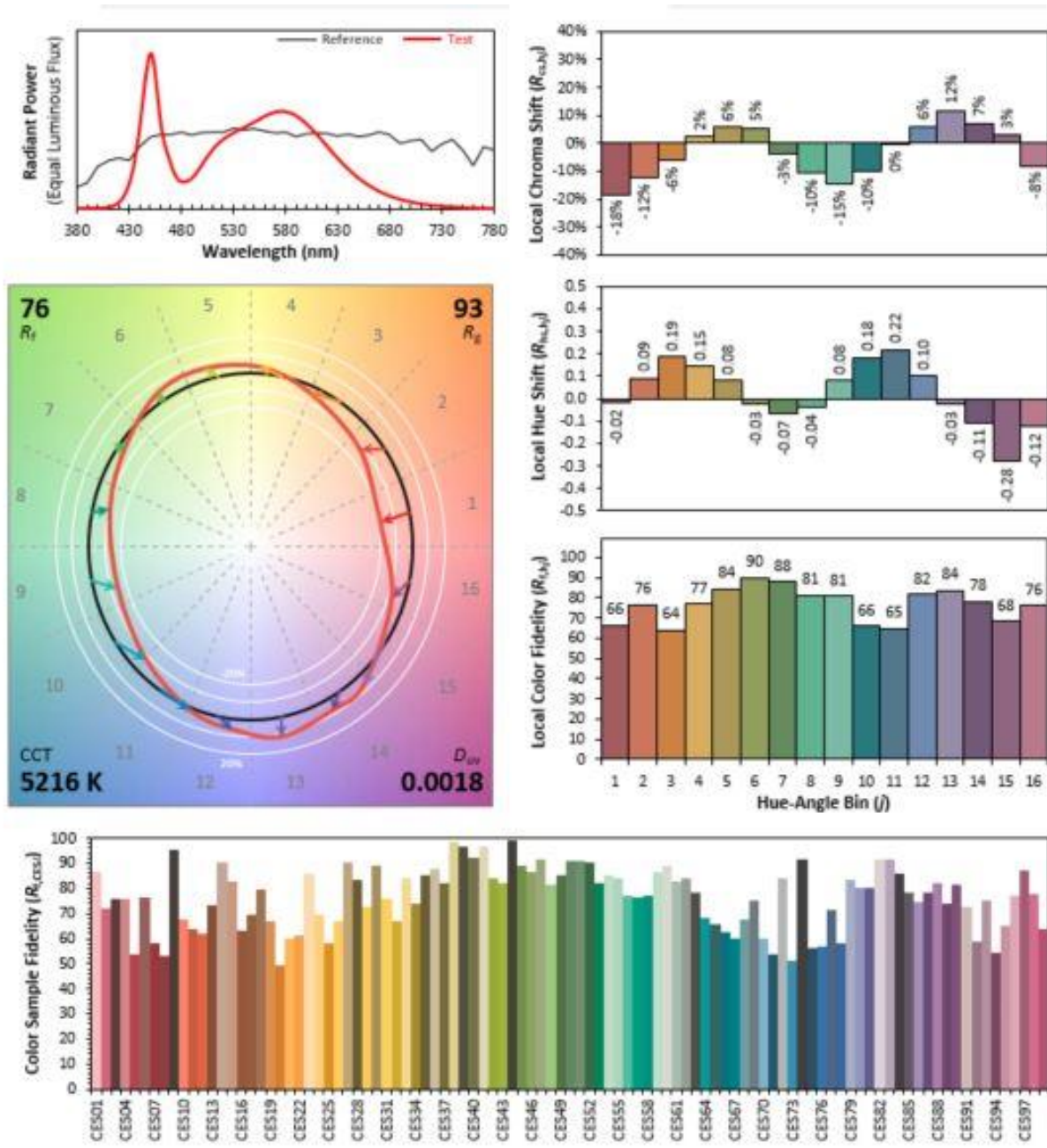
Test Results: Integrating Sphere

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	0.00155	490	0.16676	630	0.47159	770	0.01194
355	0.00184	495	0.21269	635	0.42547	775	0.01050
360	0.00231	500	0.28452	640	0.38144	780	0.00919
365	0.00327	505	0.37161	645	0.34056	785	0.00802
370	0.00429	510	0.46177	650	0.30241	790	0.00711
375	0.00583	515	0.54778	655	0.26753	795	0.00622
380	0.00722	520	0.61778	660	0.23625	800	0.00546
385	0.00855	525	0.67482	665	0.20801		
390	0.00917	530	0.71721	670	0.18235		
395	0.00966	535	0.75537	675	0.15986		
400	0.01032	540	0.78054	680	0.14009		
405	0.01295	545	0.80593	685	0.12236		
410	0.02134	550	0.82709	690	0.10672		
415	0.04306	555	0.84732	695	0.09316		
420	0.09206	560	0.86390	700	0.08090		
425	0.18537	565	0.87770	705	0.07043		
430	0.35208	570	0.88327	710	0.06132		
435	0.60752	575	0.88401	715	0.05355		
440	0.90423	580	0.87416	720	0.04677		
445	1.17257	585	0.85919	725	0.04077		
450	1.35532	590	0.83260	730	0.03553		
455	1.10692	595	0.79961	735	0.03087		
460	0.66372	600	0.76137	740	0.02684		
465	0.43878	605	0.71747	745	0.02348		
470	0.30151	610	0.67021	750	0.02059		
475	0.19800	615	0.62158	755	0.01793		
480	0.15502	620	0.57074	760	0.01569		
485	0.14925	625	0.52121	765	0.01365		

IES TM-30-18 Color Rendition Report



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

x 0.3395
 y 0.3506
 u' 0.2080
 v' 0.4834

CIE 13.3-1995
(CRI)
 R_a 75
 R_g -33

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21029.
Dialight unit model number F2x-N7B2-Lxxx-xxx

Electrical Measurements:

Input Voltage: 119.84 (VAC)
Input current: 2.9898 (A)
Input Power: 356.1 (W)
Power Factor: 0.9945

Photometric measurements:

Absolute Luminous Flux: 51621.6 (lumens)
Luminous Efficacy: 145.0 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	34202	34202	34202	34202	34202	
5.00	33555	33708	33813	32932	31609	3347
15.00	24128	27871	30497	26452	21460	7044
25.00	18277	21867	27763	20614	17057	9175
35.00	14794	17988	25180	17324	13583	10321
45.00	9892	14846	20627	13902	8371	9200
55.00	3797	3684	14484	3271	2143	4070
65.00	1133	1177	3350	1106	988	1357
75.00	550	472	507	446	420	509
85.00	95	102	92	91	58	46
90.00	0	0	0	0	0	

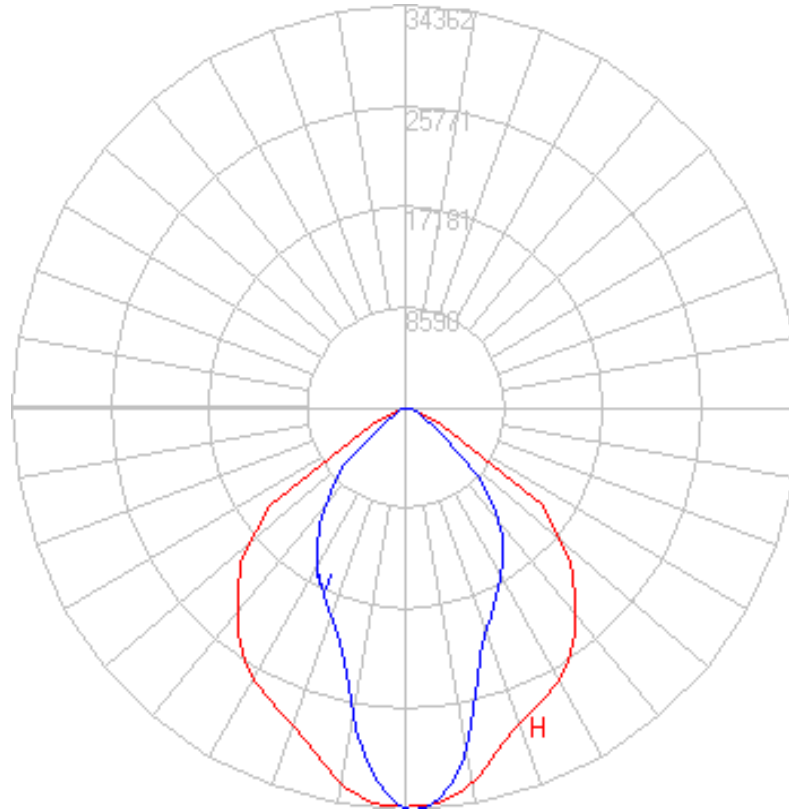
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	20911.28	40.51	40.51
0 to 40	32730.46	63.40	63.40
0 to 60	49487.09	95.87	95.87
0 to 90	51621.61	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	51621.61	100.00	100.00

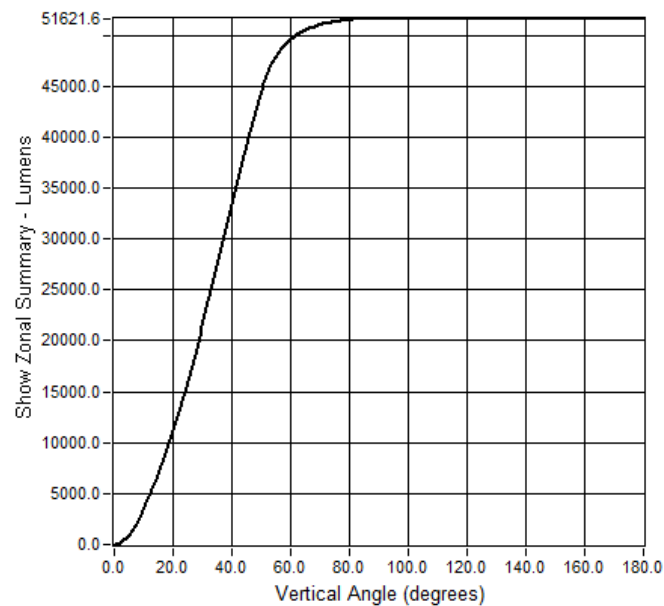
Test Results: Goniometer

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Polar Plot:



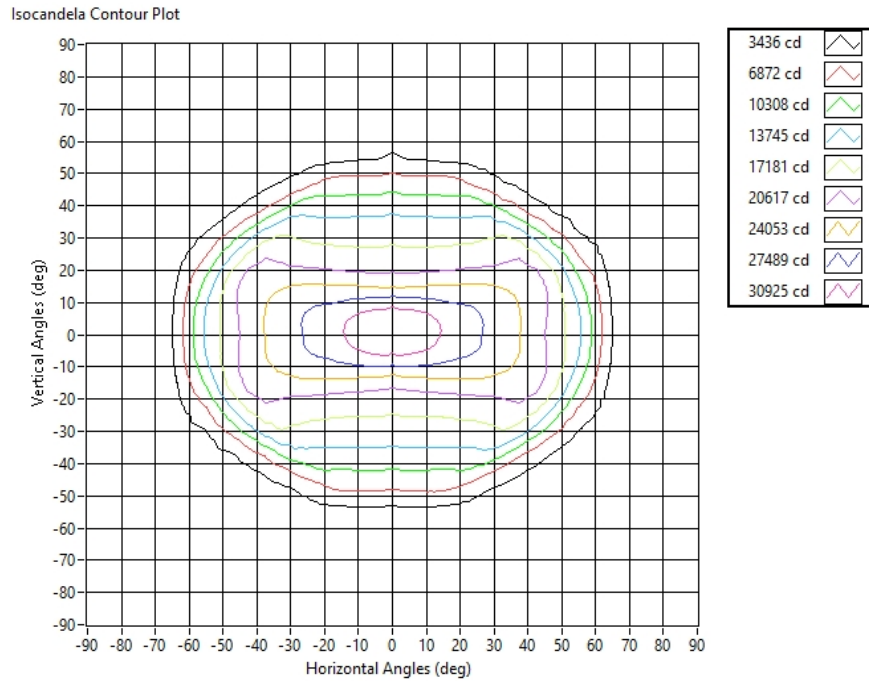
Zonal Flux Graph



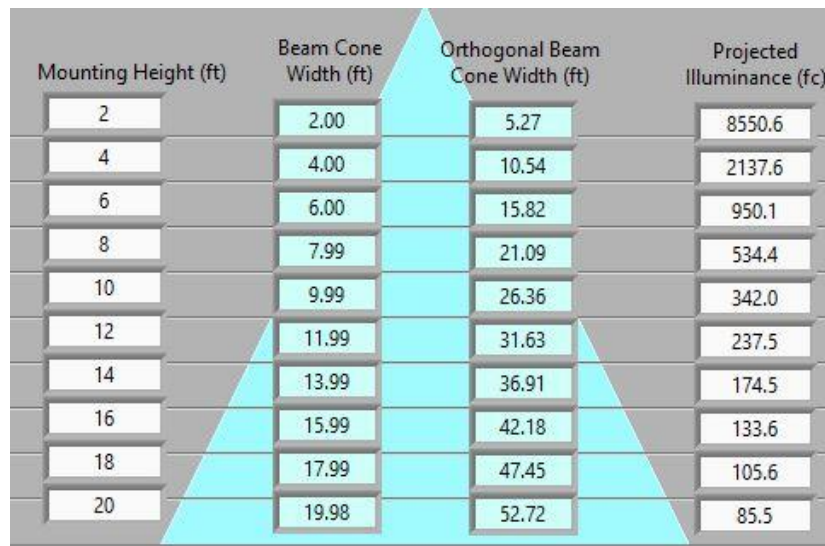
Test Results: Goniometer

Results continued from previous page.

Illuminance Plot:



Illuminance-Cone of Light:



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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 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory