

Test Report

Report Number: L21023

Date: Apr 6, 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-7FB2-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 12, 2021 through March 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

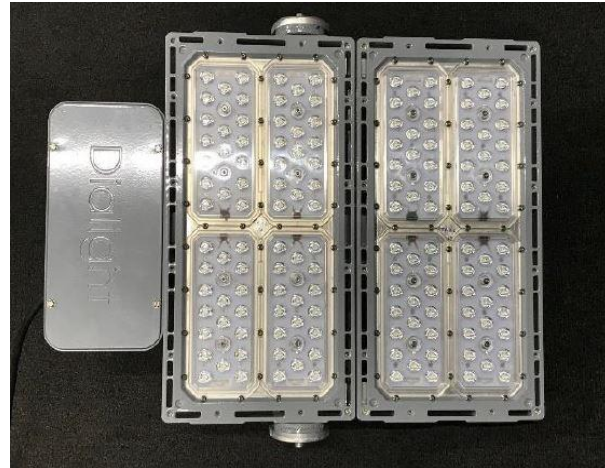
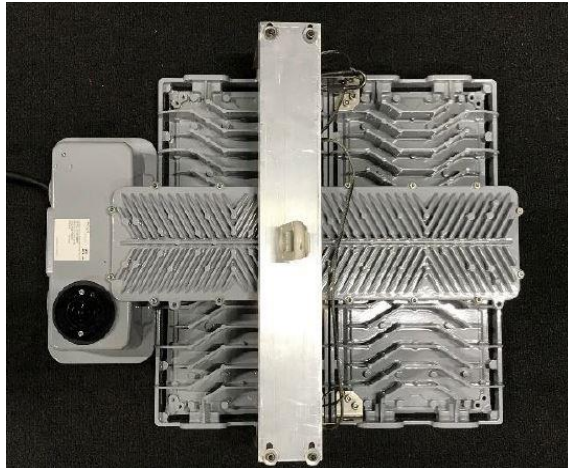
Description of sample:

Sample Number: L21023
Manufacturer: Dialight Corporation
Product Name: Glass Window, Asym Type IV, 70 CRI CW, 120-277V, 60K
Description: F2 - Flood Light
Model Number: F2x-7FB2-Nxxx-xxx

Report Summary

Sample number L21023
Dialight unit model number F2x-7FB2-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:	60558 (lumens)	59369 (lumens)
Electrical Power:	504.1 (W)	502.9 (W)
Luminous Efficacy:	120.1 (lumens/W)	118.1 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 504.1 (W)
Power Factor (120VAC): 0.996168
Current ATHD % (120VAC): 4.79137
Input Power (277VAC): 482.9 (W)
Power Factor (277VAC): 0.9666
Current ATHD % (277VAC): 9.529

Color Measurements:

Correlated Color Temperature (CCT): 5227
Color Rendering Index (CRI): 71.6989
Chromaticity Coordinate (x): 0.339
Chromaticity Coordinate (y): 0.347
Chromaticity Coordinate (u'): 0.209
Chromaticity Coordinate (v'): 0.321
DUV: -0.0001

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21023.

Dialight unit model number F2x-7FB2-Nxxx-xxx

Test Conditions:

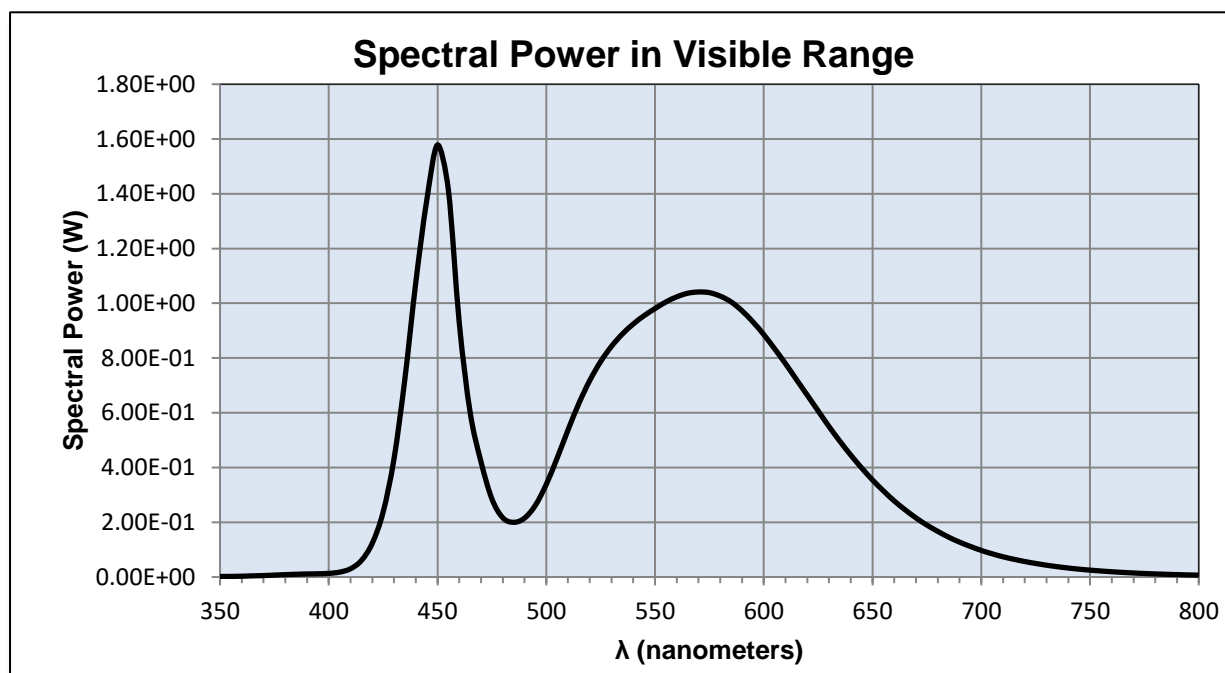
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
 Input Current: 4.29555 (A)
 Input Power: 504.1 (W)
 Input Power Factor: 0.996168
 Current ATHD: 4.79137 (%)

Photometric measurements:

Luminous Flux: 60557.92 (lumens)
 Luminous Efficacy: 120.1 (lumens/W)
 Correlated Color Temperature (CCT): 5227 (K)
 CRI -Ra: 71.6989
 CRI -R9: -31.4929
 DUV: -0.0001
 CIE Coordinate (x): 0.339
 CIE Coordinate (y): 0.347
 CIE Coordinate (u'): 0.209
 CIE Coordinate (v'): 0.321
 TM30_Rf: 69.1
 TM30_Rg: 93.5
 TM30_Rcs_hue1: -18.29 %



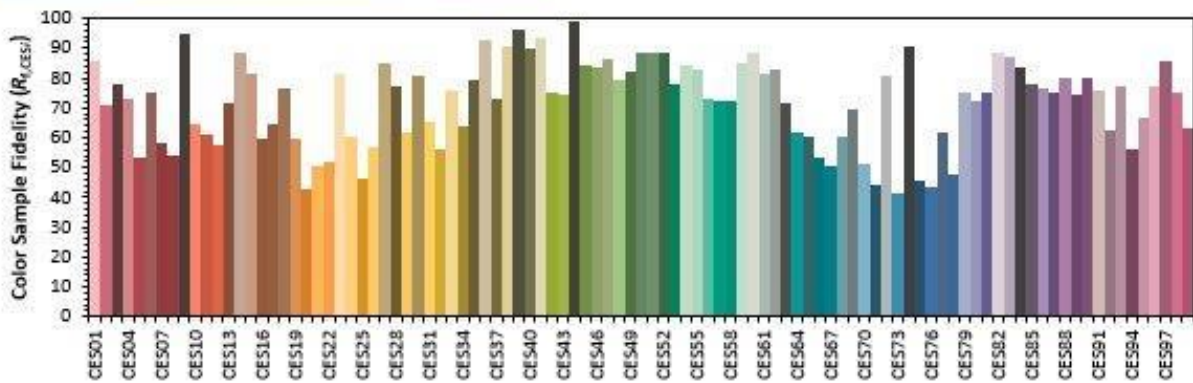
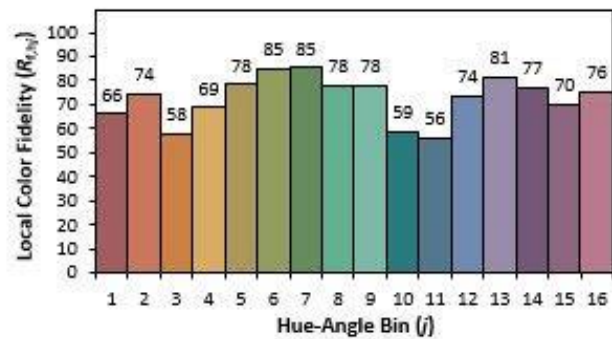
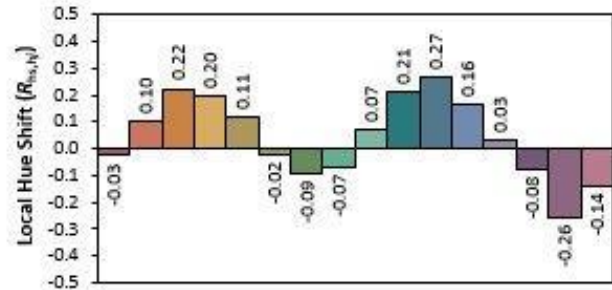
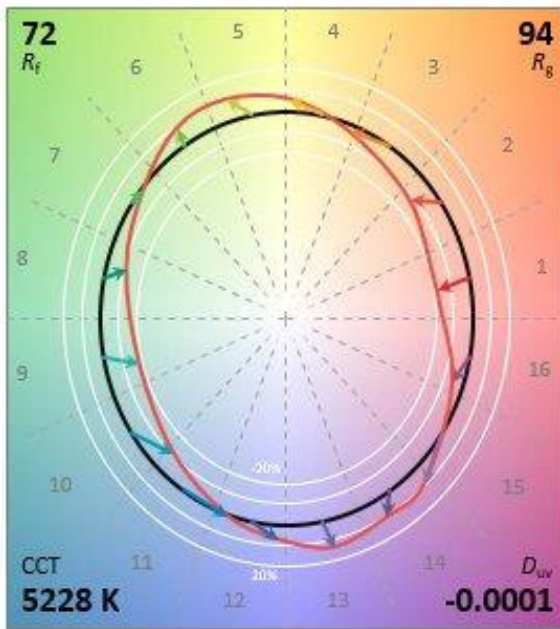
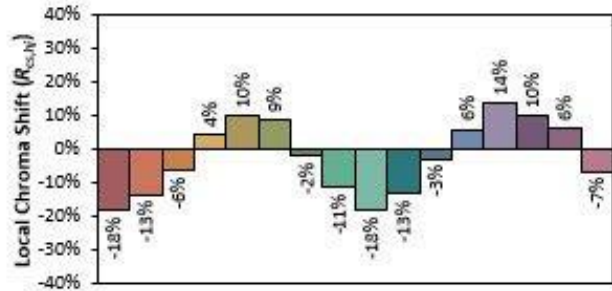
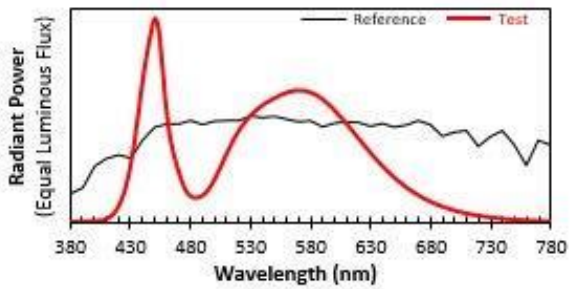
Test Results: Integrating Sphere

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	0.00194	490	0.21523	630	0.54959	770	0.01476
355	0.00231	495	0.26209	635	0.49588	775	0.01292
360	0.00300	500	0.33840	640	0.44541	780	0.01133
365	0.00426	505	0.43456	645	0.39836	785	0.00999
370	0.00531	510	0.53735	650	0.35443	790	0.00880
375	0.00708	515	0.63437	655	0.31469	795	0.00772
380	0.00872	520	0.71780	660	0.27788	800	0.00675
385	0.01013	525	0.78699	665	0.24545		
390	0.01121	530	0.84276	670	0.21588		
395	0.01190	535	0.88769	675	0.18971		
400	0.01327	540	0.92420	680	0.16674		
405	0.01791	545	0.95469	685	0.14559		
410	0.03018	550	0.98056	690	0.12759		
415	0.06031	555	1.00463	695	0.11170		
420	0.12338	560	1.02346	700	0.09718		
425	0.23760	565	1.03645	705	0.08487		
430	0.43253	570	1.04104	710	0.07398		
435	0.72442	575	1.03869	715	0.06479		
440	1.07534	580	1.02597	720	0.05668		
445	1.37327	585	1.00476	725	0.04957		
450	1.57818	590	0.97235	730	0.04324		
455	1.41279	595	0.93200	735	0.03765		
460	0.92734	600	0.88555	740	0.03281		
465	0.60155	605	0.83338	745	0.02869		
470	0.42073	610	0.77921	750	0.02520		
475	0.28543	615	0.72153	755	0.02202		
480	0.21645	620	0.66441	760	0.01930		
485	0.19979	625	0.60686	765	0.01686		

IES TM-30-18 Color Rendition Report



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

x 0.3390
y 0.3464
u' 0.2093
v' 0.4812

CIE 13.3-1995 (CRI)	
R_a	72
R_g	-32

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21023.
Dialight unit model number F2x-7FB2-Nxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 4.228 (A)
Input Power: 502.9 (W)
Power Factor: 0.9959

Photometric measurements:

Absolute Luminous Flux: 59368.9 (lumens)
Luminous Efficacy: 118.1 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	8290	8290	8290	8290	8290	
5.00	10592	10043	8378	7430	7062	885
15.00	23280	17020	9093	6663	5796	3737
25.00	40772	21360	10599	5936	4093	8682
35.00	46980	18920	12326	5540	3671	12832
45.00	72668	22343	12820	5374	2937	22222
55.00	25081	34843	12562	4877	2450	13582
65.00	7426	6237	4730	1557	1812	4419
75.00	2935	824	651	553	2940	2210
85.00	338	107	93	74	72	89
90.00	0	0	0	0	0	

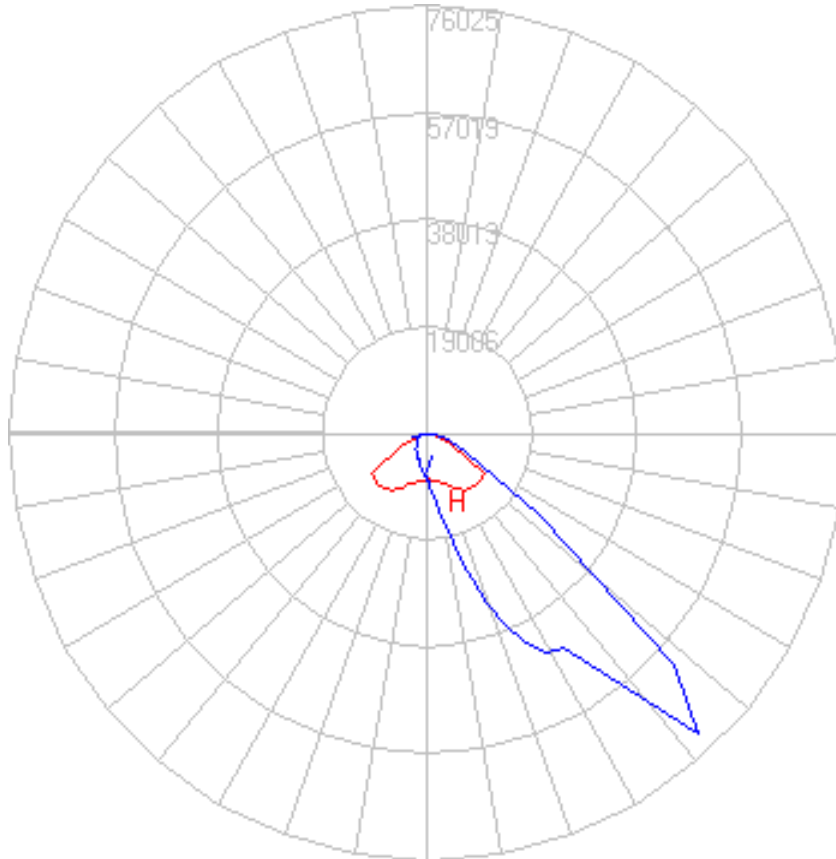
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	11439.12	19.27	19.27
0 to 40	22070.02	37.17	37.17
0 to 60	53173.58	89.56	89.56
0 to 90	59368.93	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	59368.93	100.00	100.00

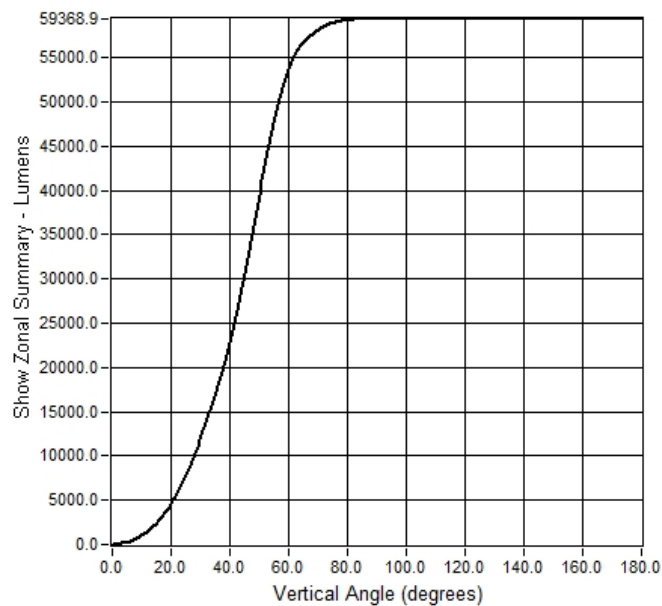
Test Results: Goniometer

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Polar Plot:



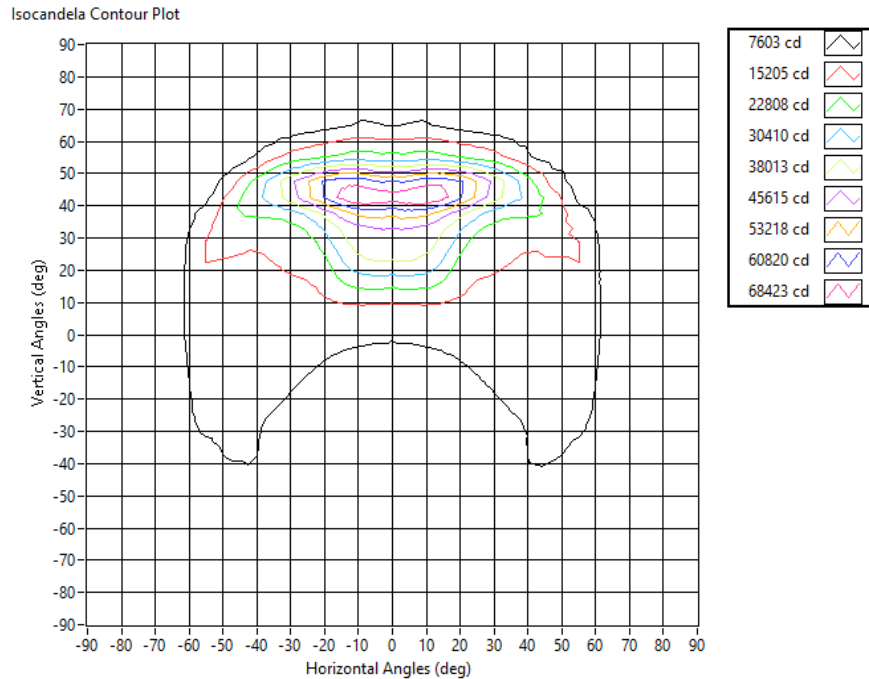
Zonal Flux Graph



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	6.74	8.80	2072.4
4	13.48	17.59	518.1
6	20.21	26.39	230.3
8	26.95	35.19	129.5
10	33.69	43.98	82.9
12	40.43	52.78	57.6
14	47.17	61.58	42.3
16	53.91	70.37	32.4
18	60.64	79.17	25.6
20	67.38	87.97	20.7

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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Vishnu Shastry
 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory