

Test Report

Report Number: L21086

Date: Jun 10, 2021

Issued by:

Dialight Optics Laboratory
1501 Route 34 South, Farmingdale, NJ 07727

Test of one F1 - Flood Light

Unit manufacturer: Dialight Corporation
Unit model number: F1x-7FB2-Bxxx-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: June 10, 2021 through June 10, 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: L21086

Manufacturer: Dialight Corporation

Product Name: Glass Window, Asymmetric Forward Throw (Type IV), 70 CRI CW, 100-277V, 12K

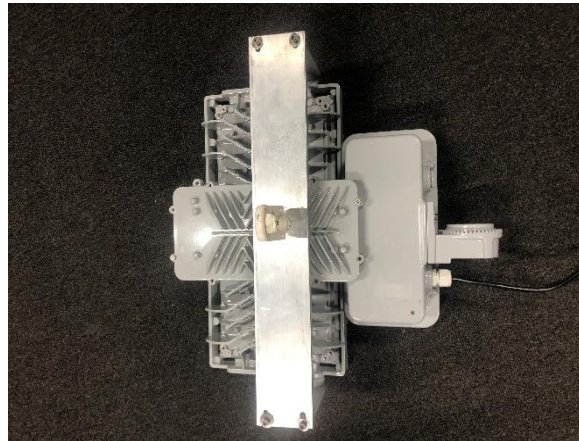
Description: F1 - Flood Light

Model Number: F1x-7FB2-Bxxx-xxx

Report Summary

Sample number L21086
Dialight unit model number F1x-7FB2-Bxxx-xxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	12180 (lumens)	12183 (lumens)
Electrical Power:	82.7 (W)	82.5 (W)
Luminous Efficacy:	147.3 (lumens/W)	147.7 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 82.7 (W)
 Power Factor (120VAC): 0.98888
 Current ATHD % (120VAC): 6.16306
 Input Power (277VAC): 80.1 (W)
 Power Factor (277VAC): 0.9648
 Current ATHD % (277VAC): 11.97

Color Measurements:

Correlated Color Temperature (CCT): 4928
 Color Rendering Index (CRI): 70.1594
 Chromaticity Coordinate (x): 0.348
 Chromaticity Coordinate (y): 0.361
 Chromaticity Coordinate (u'): 0.210
 Chromaticity Coordinate (v'): 0.326
 DUV: 0.0035

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21086.

Dialight unit model number F1x-7FB2-Bxxx-xxx

Test Conditions:

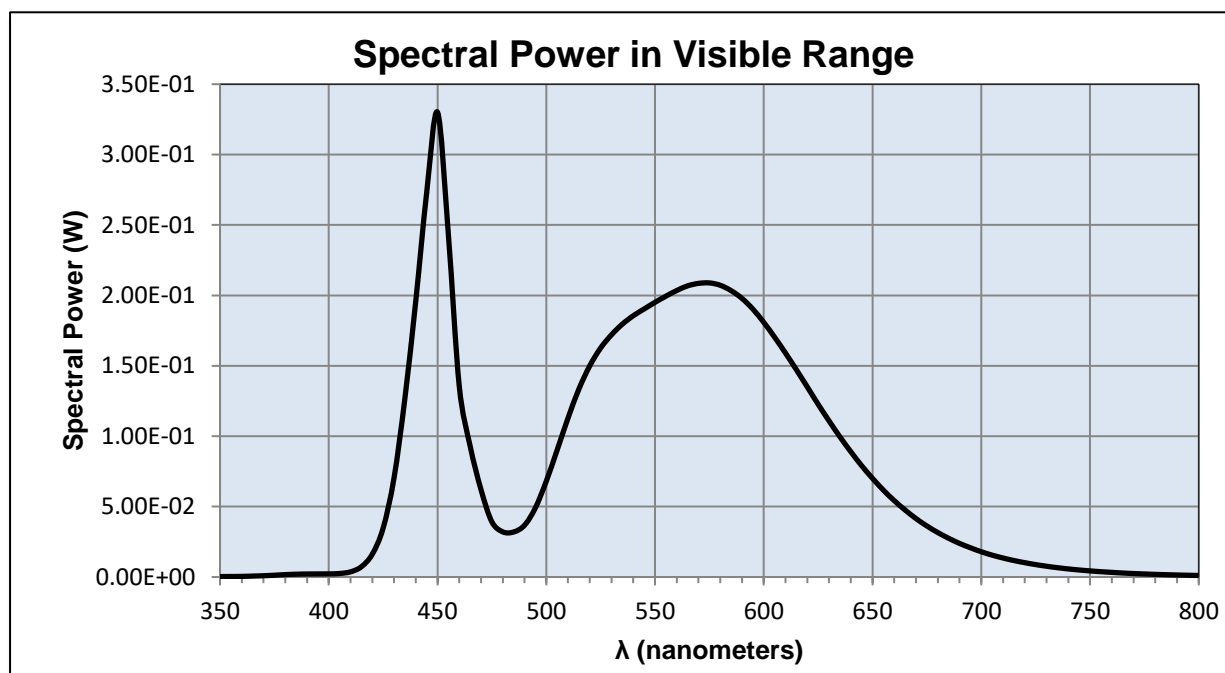
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 0.696635 (A)
Input Power: 82.7 (W)
Input Power Factor: 0.98888
Current ATHD: 6.16306 (%)

Photometric measurements:

Luminous Flux: 12179.79 (lumens)
Luminous Efficacy: 147.3 (lumens/W)
Correlated Color Temperature (CCT): 4928 (K)
CRI -Ra: 70.1594
CRI -R9: -39.9168
DUV: 0.0035
CIE Coordinate (x): 0.348
CIE Coordinate (y): 0.361
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.326
TM30_Rf: 68.9
TM30_Rg: 93.0
TM30_Rcs_hue1: -18.42 %



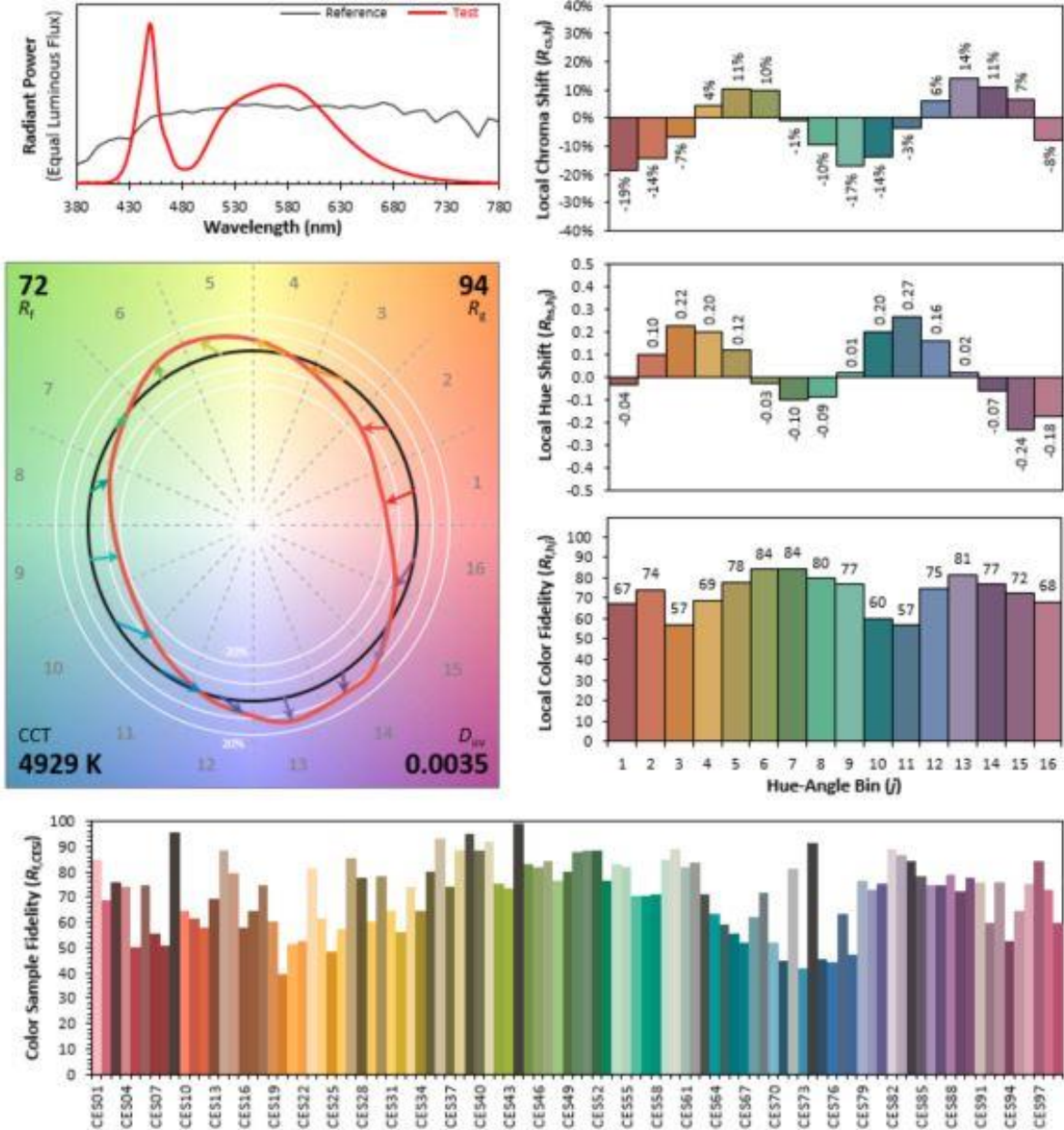
Test Results: Integrating Sphere

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	0.00033	490	0.03677	630	0.11091	770	0.00247
355	0.00038	495	0.04913	635	0.09958	775	0.00217
360	0.00046	500	0.06804	640	0.08902	780	0.00189
365	0.00067	505	0.09022	645	0.07909	785	0.00166
370	0.00092	510	0.11293	650	0.07007	790	0.00145
375	0.00129	515	0.13348	655	0.06169	795	0.00126
380	0.00171	520	0.15001	660	0.05424	800	0.00110
385	0.00201	525	0.16267	665	0.04756		
390	0.00214	530	0.17206	670	0.04151		
395	0.00221	535	0.17964	675	0.03625		
400	0.00224	540	0.18558	680	0.03159		
405	0.00251	545	0.19037	685	0.02751		
410	0.00368	550	0.19511	690	0.02388		
415	0.00733	555	0.19946	695	0.02078		
420	0.01621	560	0.20349	700	0.01796		
425	0.03480	565	0.20680	705	0.01554		
430	0.07039	570	0.20854	710	0.01352		
435	0.12697	575	0.20888	715	0.01171		
440	0.19602	580	0.20721	720	0.01018		
445	0.27279	585	0.20338	725	0.00884		
450	0.33009	590	0.19785	730	0.00766		
455	0.24278	595	0.19028	735	0.00663		
460	0.13529	600	0.18088	740	0.00575		
465	0.09298	605	0.17028	745	0.00500		
470	0.06201	610	0.15902	750	0.00435		
475	0.03914	615	0.14718	755	0.00378		
480	0.03208	620	0.13504	760	0.00330		
485	0.03200	625	0.12267	765	0.00286		

IES TM-30-18 Color Rendition Report



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

x 0.3479
y 0.3608
u' 0.2098
v' 0.4895

CIE 13.3-1995
(CRI)
 R_a 70
 R_g -40

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21086.
Dialight unit model number F1x-7FB2-Bxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 0.6977 (A)
Input Power: 82.5 (W)
Power Factor: 0.9837

Photometric measurements:

Absolute Luminous Flux: 12183.4 (lumens)
Luminous Efficacy: 147.7 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1791	1807	1848	1880	1791	
5.00	2525	2261	1849	1591	1489	199
15.00	5919	4132	1993	1402	1272	904
25.00	8921	4403	2268	1241	882	1876
35.00	10706	3986	2612	1134	746	2855
45.00	12439	4873	2726	1053	629	4000
55.00	3231	6405	2679	944	524	2177
65.00	1302	857	728	389	405	774
75.00	427	143	141	151	519	370
85.00	16	13	19	25	77	20
90.00	1	0	0	5	5	

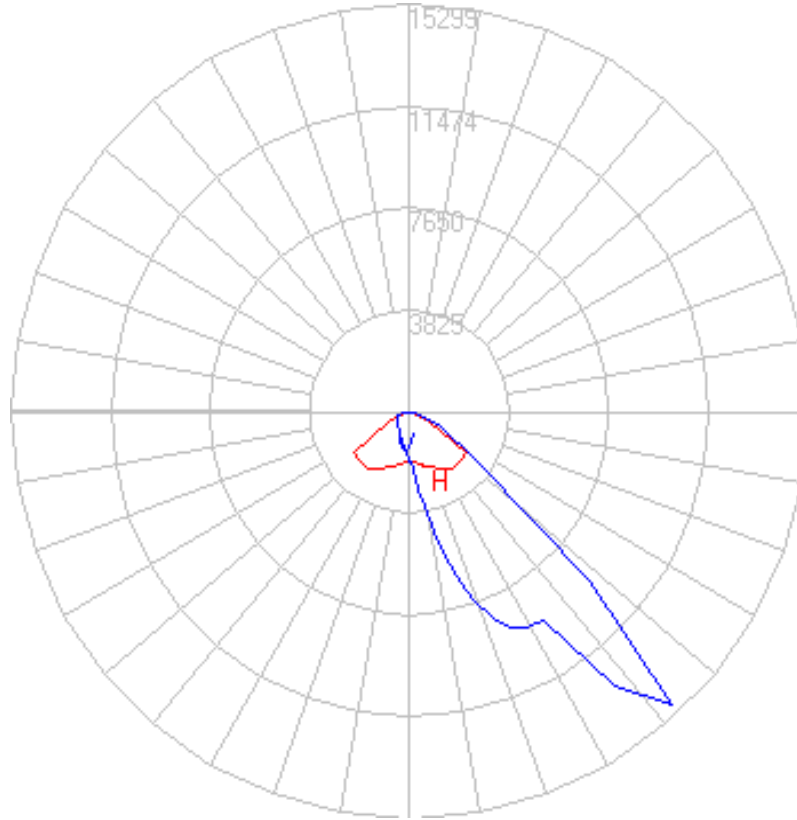
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	2611.18	21.43	21.43
0 to 40	4990.02	40.96	40.96
0 to 60	11078.15	90.93	90.93
0 to 90	12183.38	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	12183.38	100.00	100.00

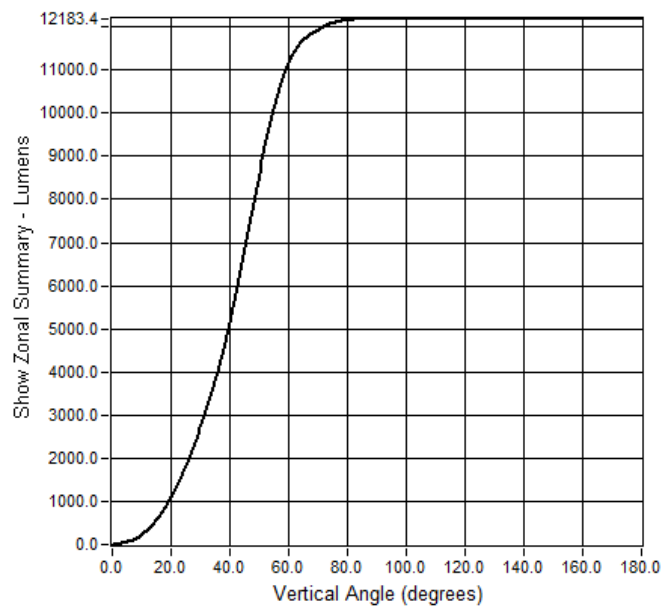
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



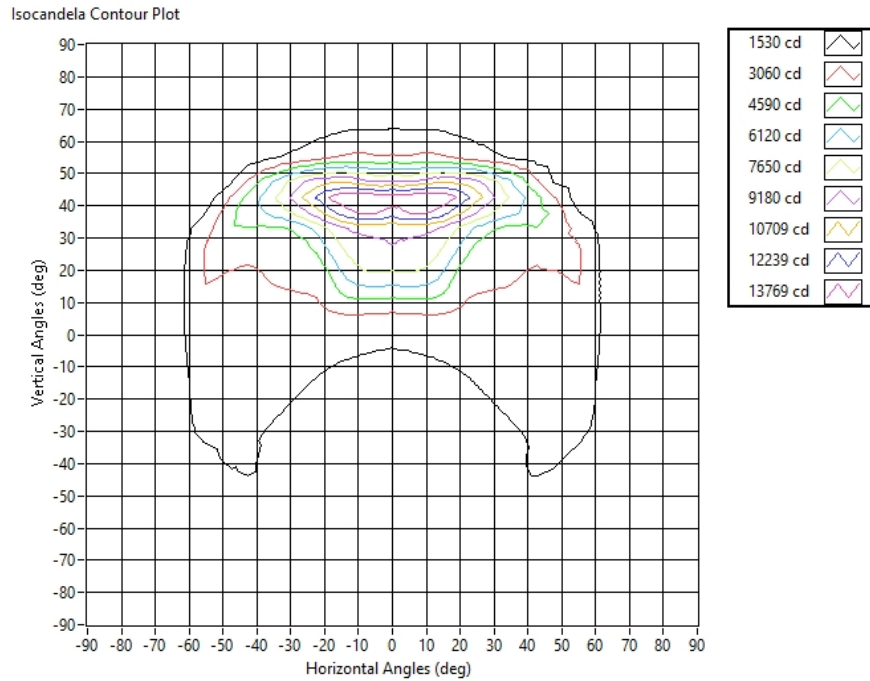
Zonal Flux Graph



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	5.90	8.25	461.1
4	11.79	16.49	115.3
6	17.69	24.74	51.2
8	23.58	32.99	28.8
10	29.48	41.23	18.4
12	35.38	49.48	12.8
14	41.27	57.73	9.4
16	47.17	65.98	7.2
18	53.06	74.22	5.7
20	58.96	82.47	4.6

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