

Test Report

Report Number: L21009

Date: Jan 20, 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-47B2-Fxxx-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: January 5, 2021 through January 5, 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: L21009

Manufacturer: Dialight Corporation

Product Name: PC Window, NEMA7x6, 70 CRI CW, 100-277V, 30K

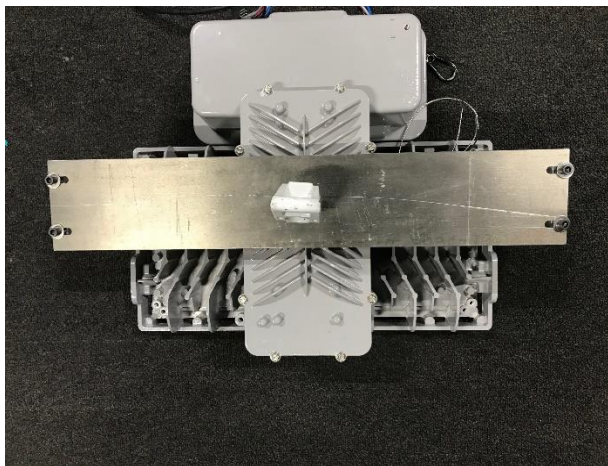
Description: F1 - Flood Light

Model Number: F1x-47B2-Fxxx-xxx

Report Summary

Sample number L21009
Dialight unit model number F1x-47B2-Fxxx-xxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	28526 (lumens)	28361 (lumens)
Electrical Power:	243.0 (W)	239.8 (W)
Luminous Efficacy:	117.4 (lumens/W)	118.3 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 243.0 (W)
Power Factor (120VAC): 0.9957
Current ATHD % (120VAC): 5.754
Input Power (277VAC): 232.5 (W)
Power Factor (277VAC): 0.9573
Current ATHD % (277VAC): 10.1799

Color Measurements:

Correlated Color Temperature (CCT): 5199
Color Rendering Index (CRI): 72.3578
Chromaticity Coordinate (x): 0.340
Chromaticity Coordinate (y): 0.346
Chromaticity Coordinate (u'): 0.210
Chromaticity Coordinate (v'): 0.321
DUV: -0.0004

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21009.

Dialight unit model number F1x-47B2-Fxxx-xxx

Test Conditions:

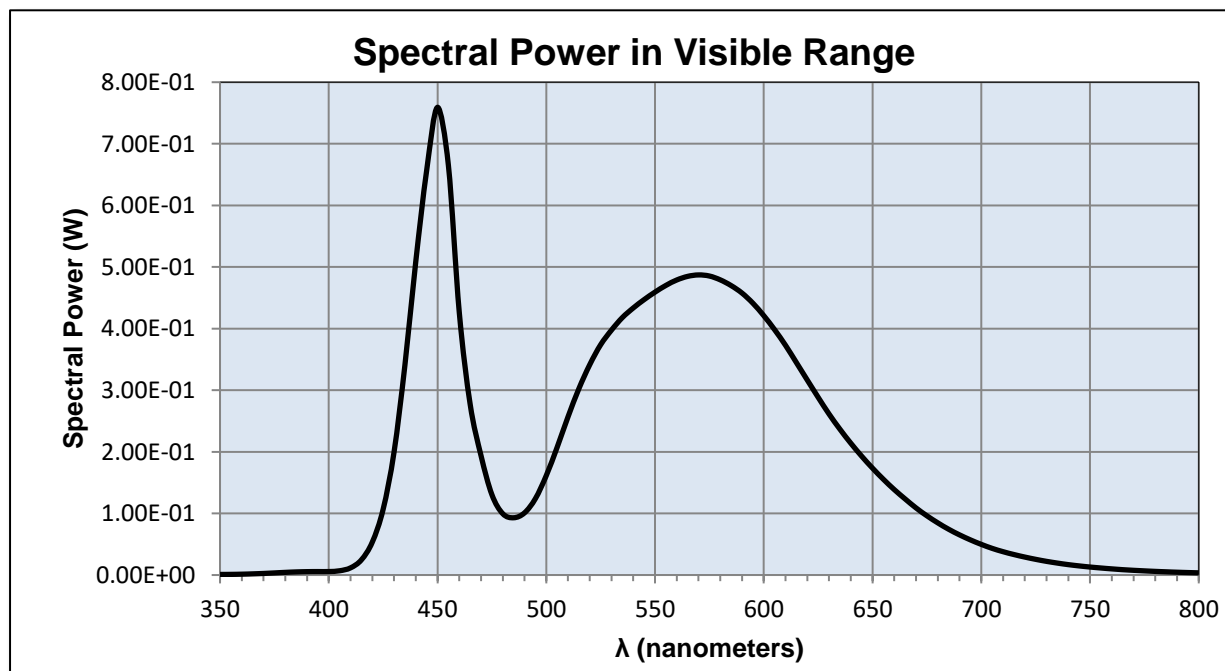
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 2.047 (A)
Input Power: 243.0 (W)
Input Power Factor: 0.9957
Current ATHD: 5.754 (%)

Photometric measurements:

Luminous Flux: 28526.36 (lumens)
Luminous Efficacy: 117.4 (lumens/W)
Correlated Color Temperature (CCT): 5199 (K)
CRI -Ra: 72.3578
CRI -R9: -27.7688
DUV: -0.0004
CIE Coordinate (x): 0.340
CIE Coordinate (y): 0.346
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.321
TM30_Rf: 69.6
TM30_Rg: 94.0
TM30_Rcs_hue1: -17.72 %



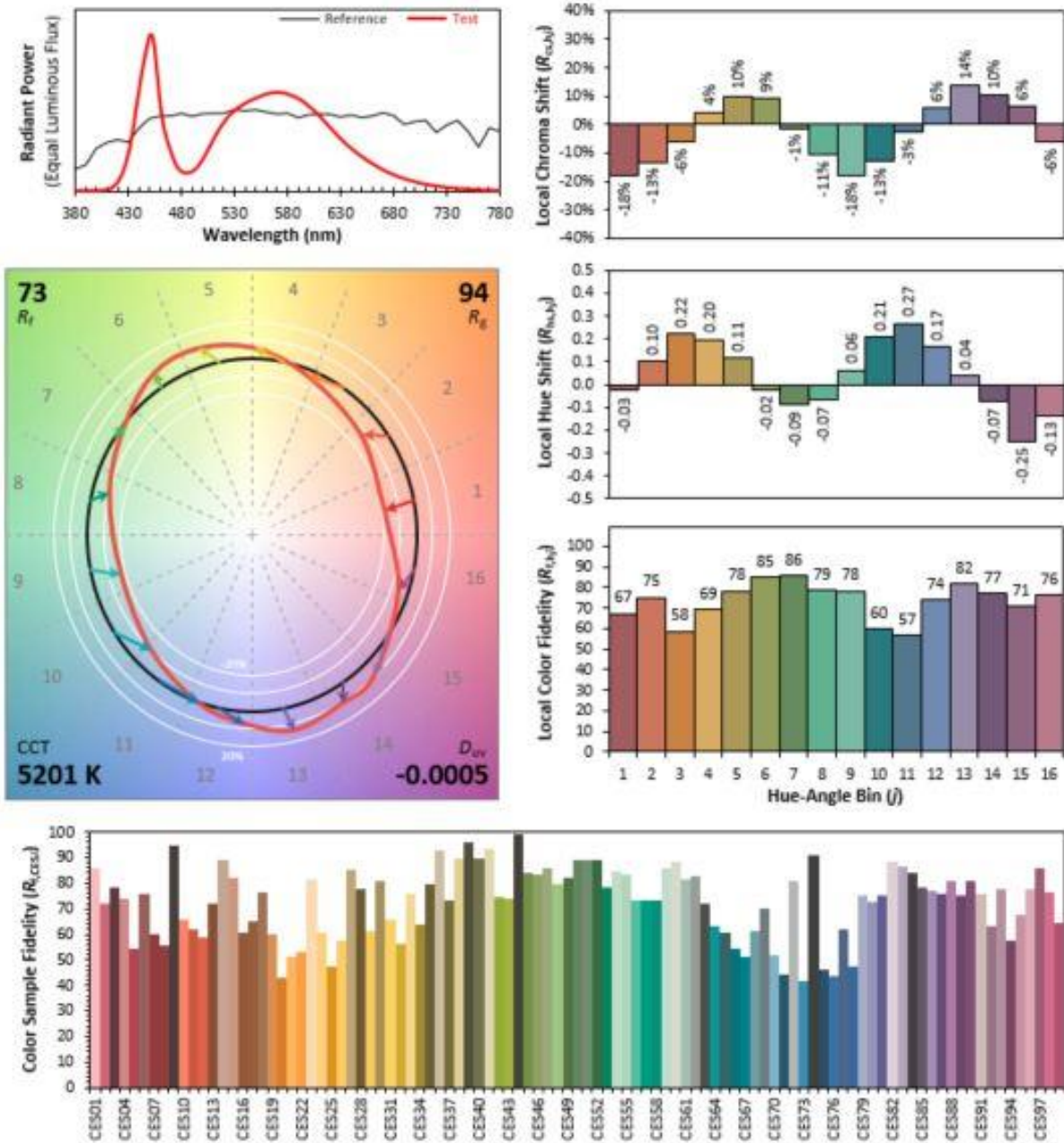
Test Results: Integrating Sphere

Results continued from previous page.

Tabulated Spectral Power in Visible Range:

$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)
350	0.00096	490	0.10095	630	0.26142	770	0.00766
355	0.00105	495	0.12402	635	0.23675	775	0.00674
360	0.00136	500	0.16143	640	0.21401	780	0.00593
365	0.00188	505	0.20742	645	0.19298	785	0.00521
370	0.00256	510	0.25692	650	0.17348	790	0.00456
375	0.00342	515	0.30255	655	0.15541	795	0.00401
380	0.00433	520	0.34153	660	0.13866	800	0.00354
385	0.00504	525	0.37388	665	0.12346		
390	0.00549	530	0.39768	670	0.10895		
395	0.00563	535	0.41801	675	0.09617		
400	0.00565	540	0.43351	680	0.08468		
405	0.00690	545	0.44711	685	0.07431		
410	0.01164	550	0.45930	690	0.06518		
415	0.02460	555	0.47014	695	0.05706		
420	0.05332	560	0.47897	700	0.04977		
425	0.10684	565	0.48481	705	0.04328		
430	0.19948	570	0.48717	710	0.03789		
435	0.34072	575	0.48540	715	0.03325		
440	0.50876	580	0.47916	720	0.02918		
445	0.65662	585	0.46985	725	0.02549		
450	0.75928	590	0.45768	730	0.02221		
455	0.66481	595	0.44125	735	0.01938		
460	0.42608	600	0.42105	740	0.01688		
465	0.27736	605	0.39814	745	0.01477		
470	0.19379	610	0.37285	750	0.01298		
475	0.13040	615	0.34483	755	0.01142		
480	0.09953	620	0.31657	760	0.00998		
485	0.09295	625	0.28851	765	0.00871		

IES TM-30-18 Color Rendition Report



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

x 0.3396
 y 0.3462
 u' 0.2098
 v' 0.4812

CIE 13.3-1995
(CRI)
 R_a 72
 R_g -28

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21009.
Dialight unit model number F1x-47B2-Fxxx-xxx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 2.012 (A)
Input Power: 239.8 (W)
Power Factor: 0.9952

Photometric measurements:

Absolute Luminous Flux: 28361.3 (lumens)
Luminous Efficacy: 118.3 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	19762	19753	19714	19701	19762	
5.00	19089	19337	19592	19268	18863	1945
15.00	13248	15788	17647	15884	12613	4038
25.00	10008	11672	15789	12095	9777	5150
35.00	7951	9607	13649	9810	7785	5686
45.00	4976	7528	10613	7791	4876	4895
55.00	1377	1696	6906	1853	1318	1928
65.00	606	592	1632	643	583	725
75.00	201	190	217	194	183	207
85.00	14	15	17	15	12	8
90.00	1	1	1	1	1	

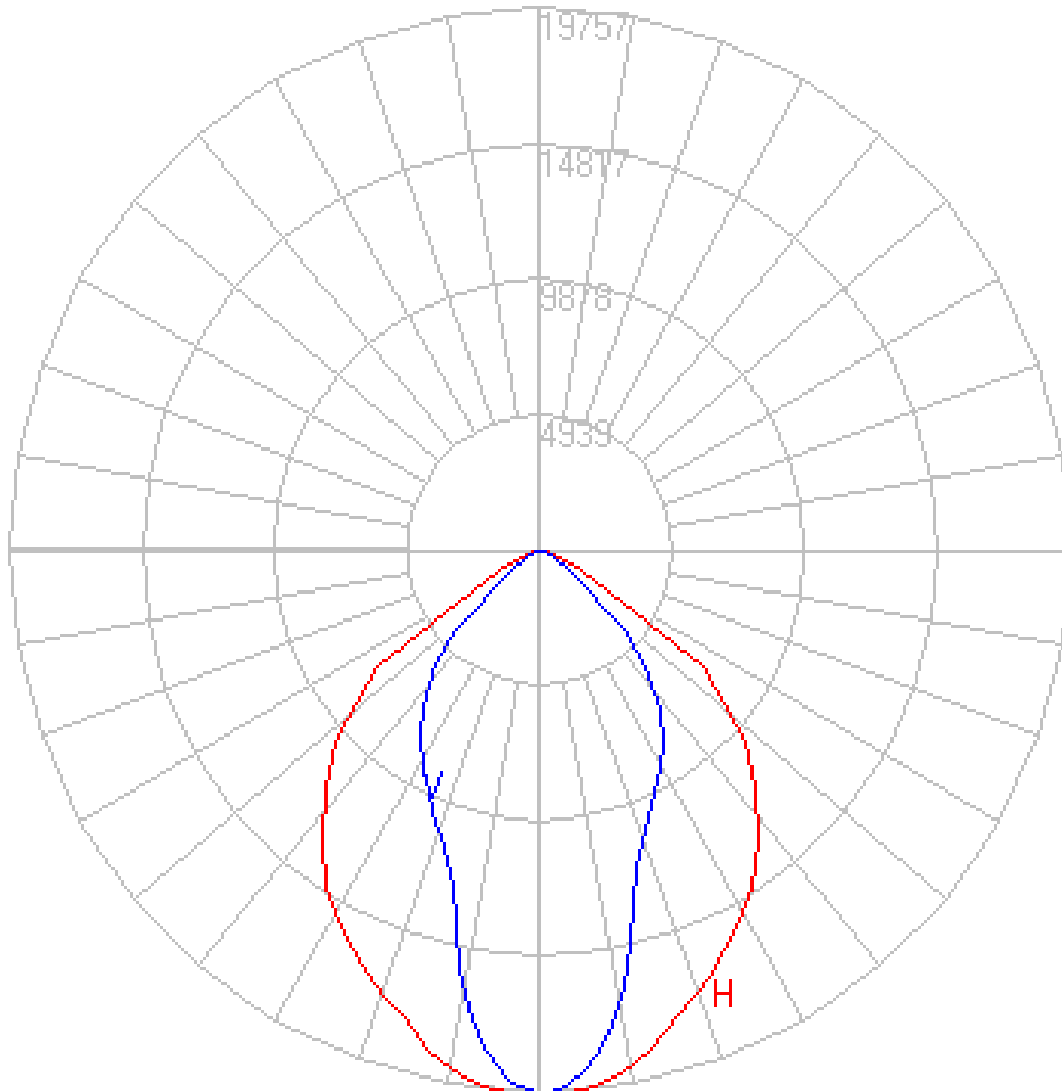
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	12030.14	42.42	42.42
0 to 40	18536.05	65.36	65.36
0 to 60	27301.25	96.26	96.26
0 to 90	28361.34	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	28361.34	100.00	100.00

Test Results: Goniometer

Results continued from previous page.

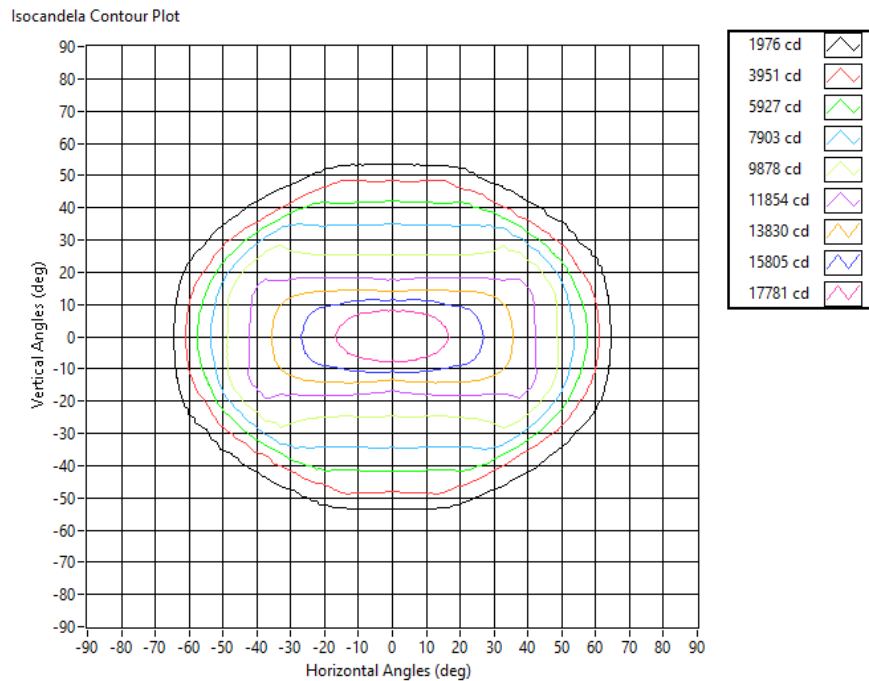
Polar Plot:



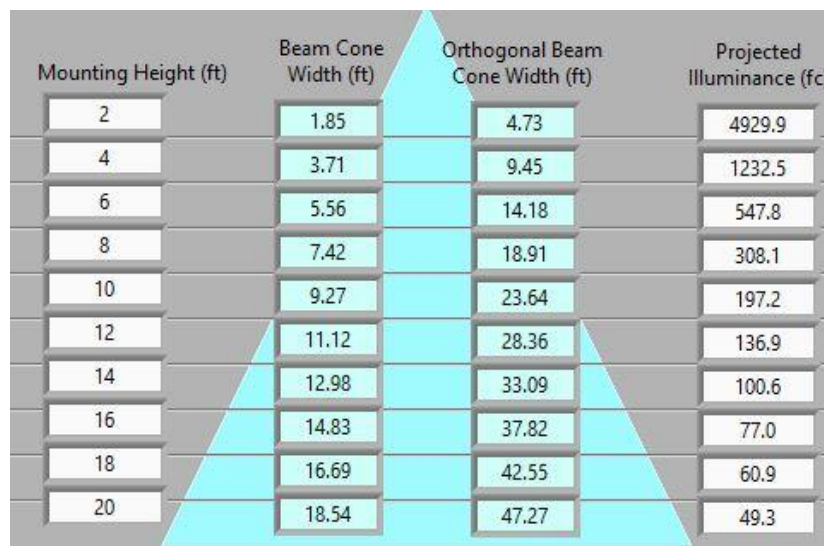
Test Results: Goniometer

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