

Test Report

Report Number: L21008

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-77B2-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: L21008

Manufacturer: Dialight Corporation

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

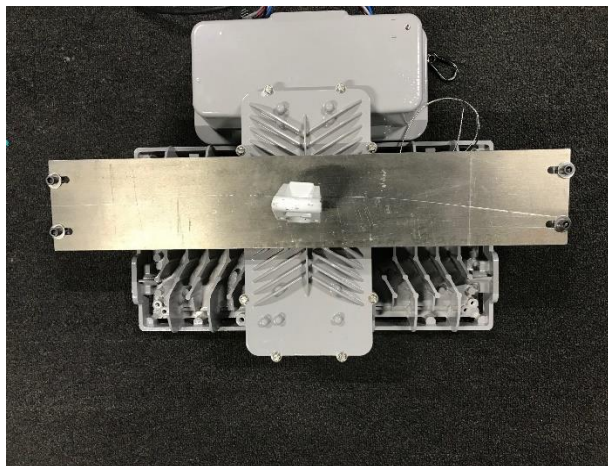
Description: F1 - Flood Light

Model Number: F1x-77B2-Fxxx-xxx

Report Summary

Sample number L21008
Dialight unit model number F1x-77B2-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:	30302 (lumens)	30100 (lumens)
Electrical Power:	242.5 (W)	239.9 (W)
Luminous Efficacy:	125 (lumens/W)	125.5 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 242.5 (W)
Power Factor (120VAC): 0.9956
Current ATHD % (120VAC): 10.1626
Input Power (277VAC): 231.9 (W)
Power Factor (277VAC): 0.9567
Current ATHD % (277VAC): 10.162

Color Measurements:

Correlated Color Temperature (CCT): 5168
Color Rendering Index (CRI): 71.3792
Chromaticity Coordinate (x): 0.341
Chromaticity Coordinate (y): 0.349
Chromaticity Coordinate (u'): 0.210
Chromaticity Coordinate (v'): 0.322
DUV: 0.0003

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21008.

Dialight unit model number F1x-77B2-Fxxx-xxx

Test Conditions:

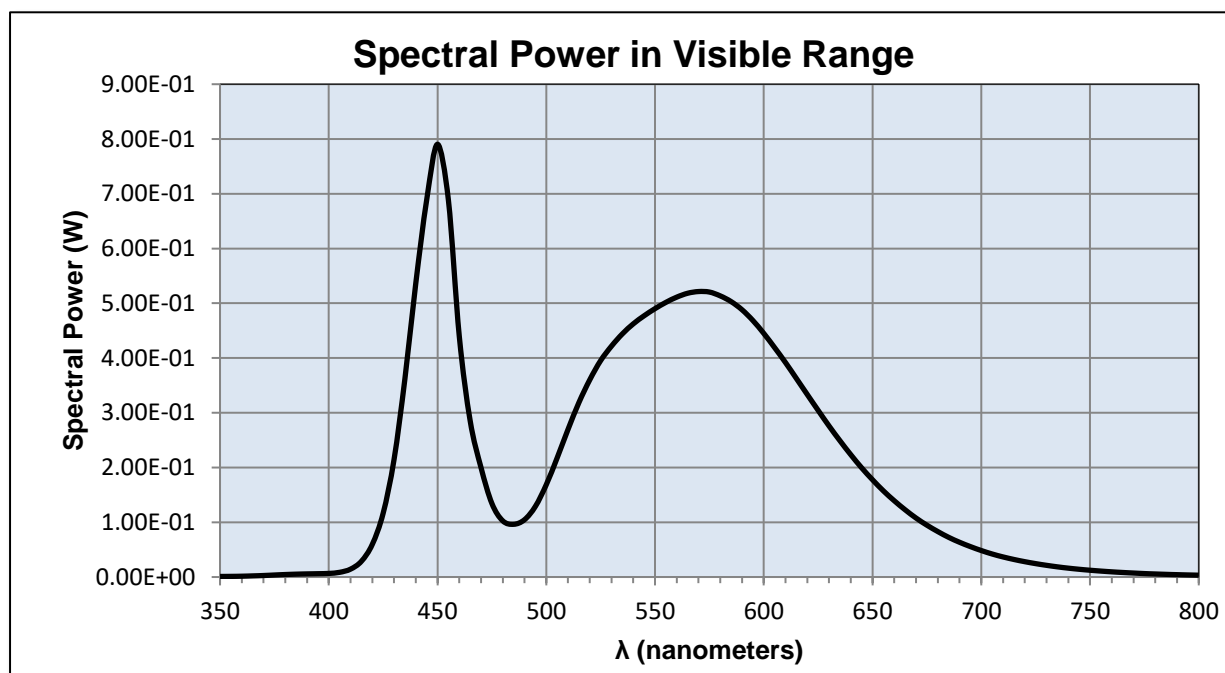
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 2.043 (A)
Input Power: 242.5 (W)
Input Power Factor: 0.9956
Current ATHD: 10.1626 (%)

Photometric measurements:

Luminous Flux: 30301.82 (lumens)
Luminous Efficacy: 125.0 (lumens/W)
Correlated Color Temperature (CCT): 5168 (K)
CRI -Ra: 71.3792
CRI -R9: -32.9749
DUV: 0.0003
CIE Coordinate (x): 0.341
CIE Coordinate (y): 0.349
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.322
TM30_Rf: 69.0
TM30_Rg: 93.5
TM30_Rcs_hue1: -18.37 %



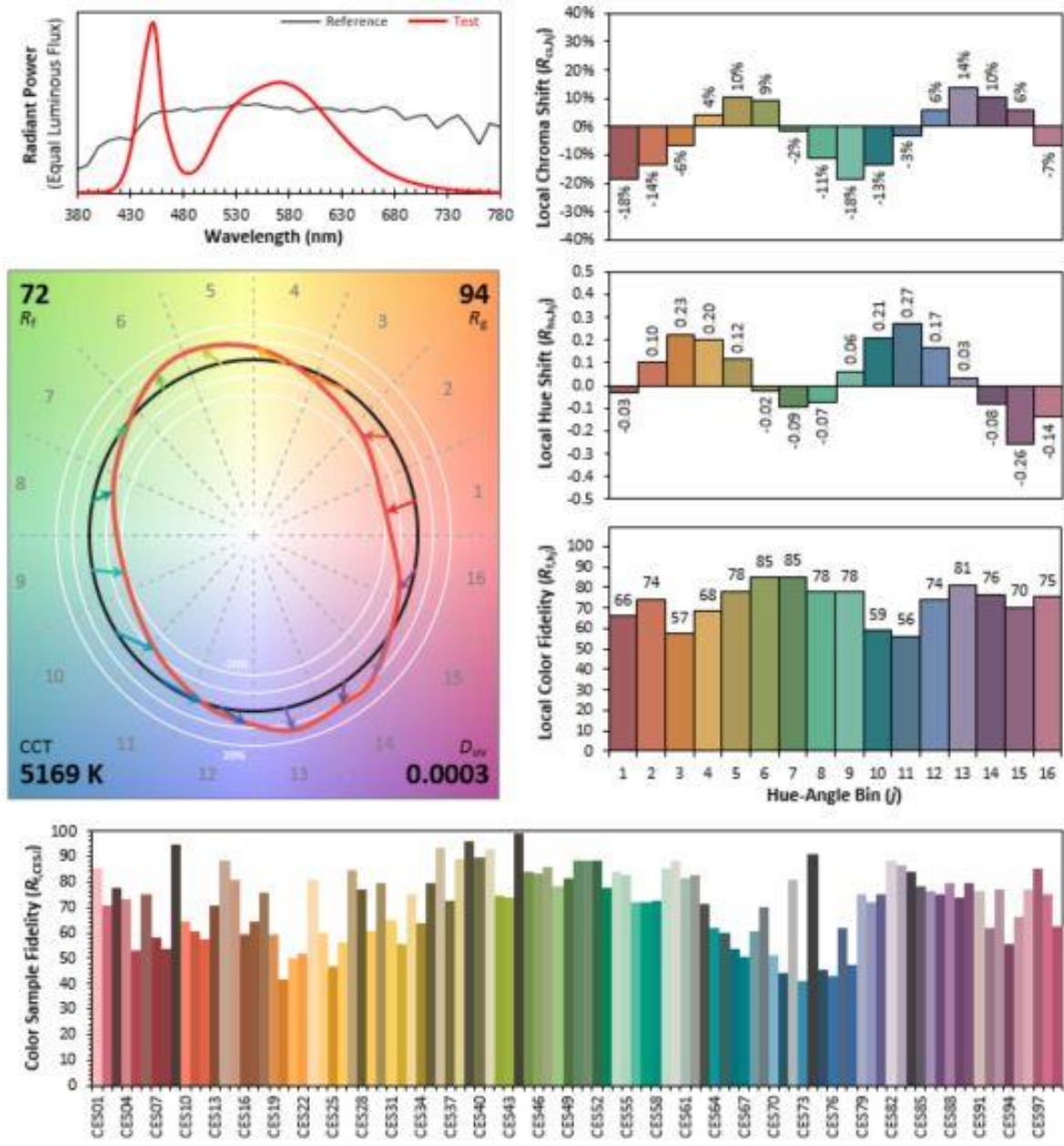
Test Results: Integrating Sphere

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	0.00105	490	0.10470	630	0.27590	770	0.00728
355	0.00119	495	0.12905	635	0.24902	775	0.00633
360	0.00150	500	0.16861	640	0.22340	780	0.00556
365	0.00207	505	0.21763	645	0.19945	785	0.00489
370	0.00275	510	0.26967	650	0.17763	790	0.00430
375	0.00369	515	0.31854	655	0.15734	795	0.00378
380	0.00457	520	0.36016	660	0.13928	800	0.00334
385	0.00524	525	0.39525	665	0.12276		
390	0.00571	530	0.42177	670	0.10776		
395	0.00606	535	0.44414	675	0.09472		
400	0.00657	540	0.46235	680	0.08307		
405	0.00863	545	0.47716	685	0.07250		
410	0.01439	550	0.49013	690	0.06350		
415	0.02874	555	0.50159	695	0.05557		
420	0.05953	560	0.51119	700	0.04839		
425	0.11650	565	0.51826	705	0.04206		
430	0.21446	570	0.52135	710	0.03670		
435	0.36206	575	0.52043	715	0.03208		
440	0.53619	580	0.51344	720	0.02802		
445	0.68823	585	0.50296	725	0.02449		
450	0.79038	590	0.48808	730	0.02136		
455	0.68819	595	0.46847	735	0.01858		
460	0.43954	600	0.44496	740	0.01622		
465	0.28563	605	0.41886	745	0.01416		
470	0.19980	610	0.39159	750	0.01240		
475	0.13428	615	0.36254	755	0.01086		
480	0.10255	620	0.33331	760	0.00948		
485	0.09631	625	0.30438	765	0.00829		

IES TM-30-18 Color Rendition Report



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

x 0.3405
y 0.3484
u' 0.2096
v' 0.4824

CIE 13.3-1995
(CRI)
 R_a 71
 R_g -33

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21008.
Dialight unit model number F1x-77B2-Fxxx-xxx

Electrical Measurements:

Input Voltage: 119.75 (VAC)
Input current: 2.0126 (A)
Input Power: 239.9 (W)
Power Factor: 0.9952

Photometric measurements:

Absolute Luminous Flux: 30100 (lumens)
Luminous Efficacy: 125.5 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	20540	20547	20455	20429	20540	
5.00	19608	19960	20348	20217	19869	2022
15.00	13318	16162	18372	16994	13744	4223
25.00	10347	12072	16511	13171	10504	5432
35.00	8192	10051	14380	10518	8426	6007
45.00	5106	7792	11271	8802	5475	5258
55.00	1386	1771	7530	2233	1632	2140
65.00	638	644	1900	772	678	820
75.00	204	203	265	248	239	241
85.00	14	15	23	25	20	10
90.00	1	1	1	2	2	

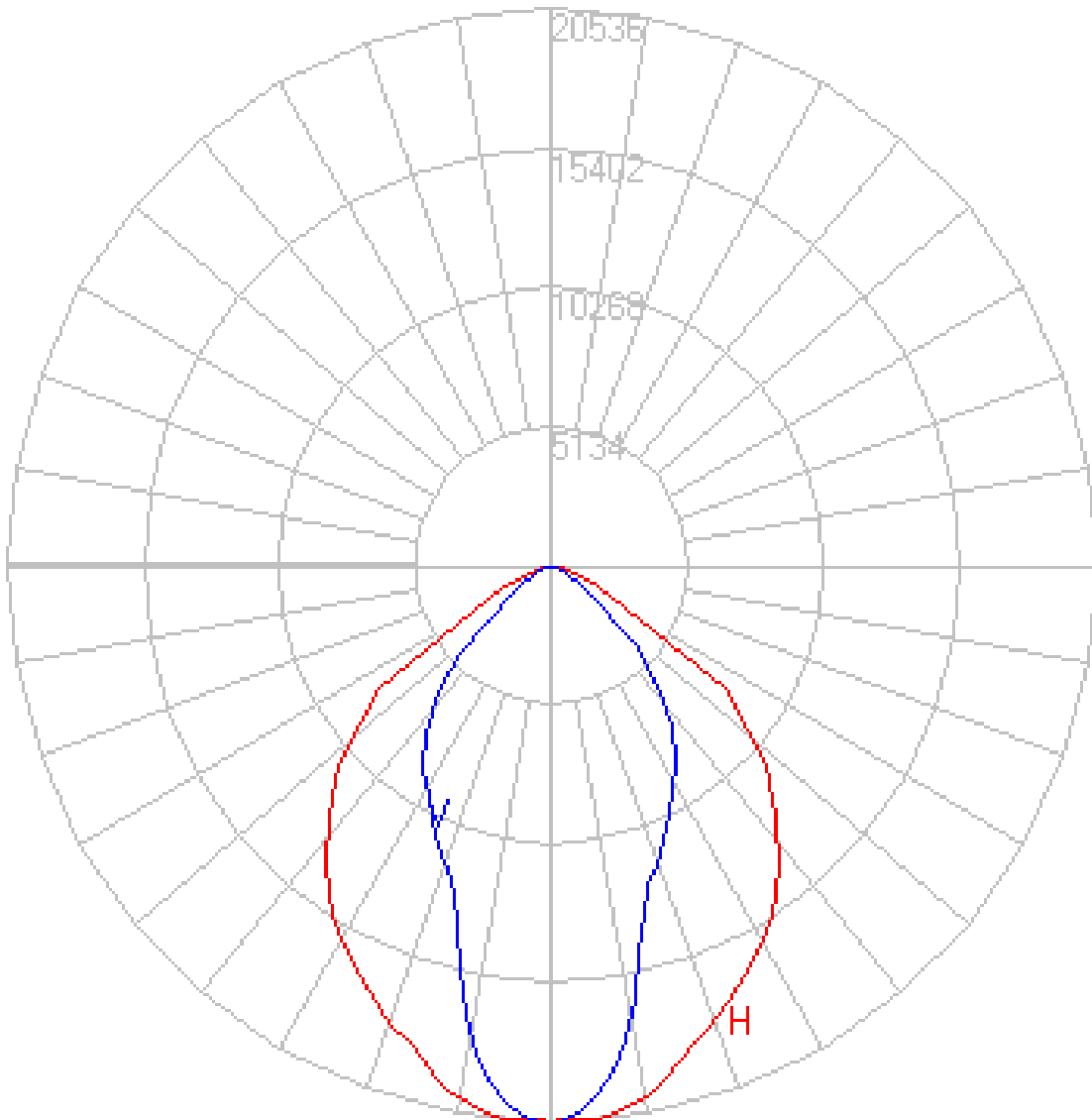
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	12606.60	41.88	41.88
0 to 40	19479.40	64.72	64.72
0 to 60	28897.98	96.01	96.01
0 to 90	30100.00	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	30100.00	100.00	100.00

Test Results: Goniometer

Results continued from previous page.

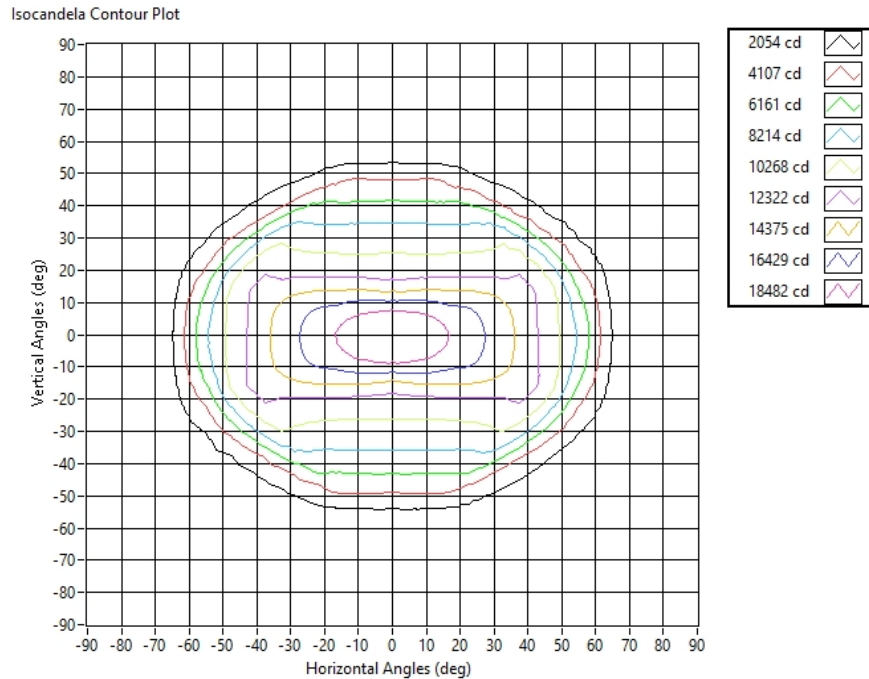
Polar Plot:



Test Results: Goniometer

Results continued from previous page.

Illuminance Plot:



Illuminance-Cone of Light:

Mounting Height (ft)	Beam Cone Width (ft)	Orthogonal Beam Cone Width (ft)	Projected Illuminance (fc)
2	1.97	4.61	5120.6
4	3.93	9.23	1280.2
6	5.90	13.84	569.0
8	7.86	18.46	320.0
10	9.83	23.07	204.8
12	11.79	27.68	142.2
14	13.76	32.30	104.5
16	15.72	36.91	80.0
18	17.69	41.52	63.2
20	19.65	46.14	51.2

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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 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory