

Test Report

Report Number: L21017

Date: Apr 5, 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-4FN5-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: January 20, 2021 through February 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

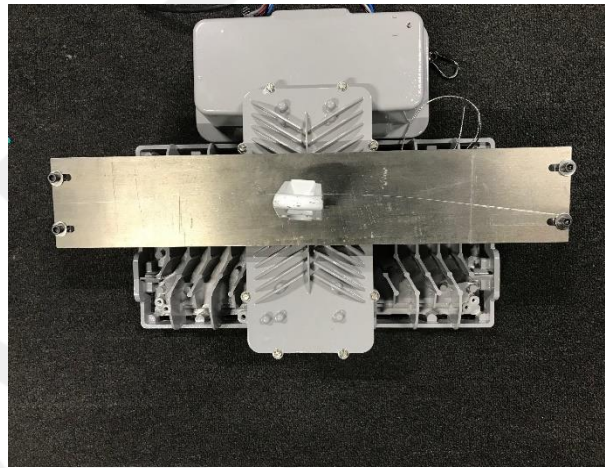
Description of sample:

Sample Number: L21017
Manufacturer: Dialight Corporation
Product Name: PC Window, Asymmetric Forward Throw (Type IV), 80 CRI NW, 347-480V, 12K
Description: F1 - Flood Light
Model Number: F1x-4FN5-Bxxx-xxx

Report Summary

Sample number L21017
Dialight unit model number F1x-4FN5-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:	10577 (lumens)	10124 (lumens)
Electrical Power:	84.3 (W)	83.7 (W)
Luminous Efficacy:	125.5 (lumens/W)	120.9 (lumens/W)

Electrical Measurements:

Input Power (480VAC): 84.3 (W)
Power Factor (480VAC): 0.931469
Current ATHD % (480VAC): 13.7136
Input Power (347VAC): 83.8 (W)
Power Factor (347VAC): 0.9706
Current ATHD % (347VAC): 14.4

Color Measurements:

Correlated Color Temperature (CCT): 3964
Color Rendering Index (CRI): 84.6488
Chromaticity Coordinate (x): 0.384
Chromaticity Coordinate (y): 0.384
Chromaticity Coordinate (u'): 0.224
Chromaticity Coordinate (v'): 0.337
DUV: 0.0023

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21017.

Dialight unit model number F1x-4FN5-Bxxx-xxx

Test Conditions:

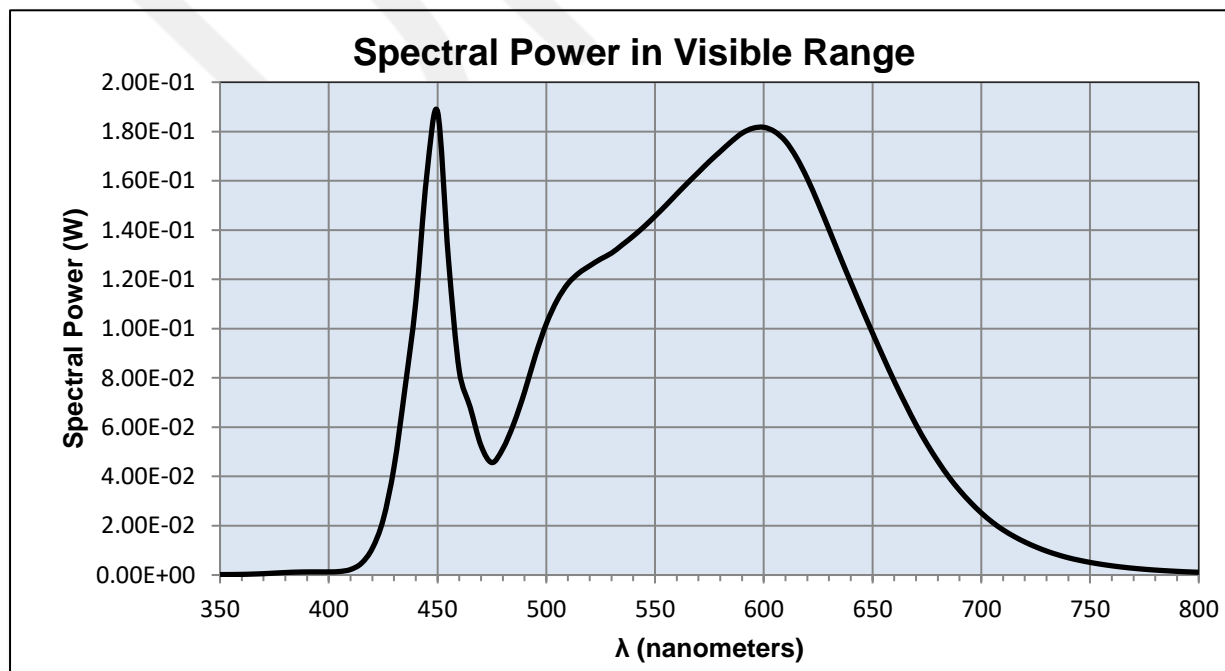
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 480 (VAC)
Input Current: 0.188559 (A)
Input Power: 84.3 (W)
Input Power Factor: 0.931469
Current ATHD: 13.7136 (%)

Photometric measurements:

Luminous Flux: 10577.38 (lumens)
Luminous Efficacy: 125.5 (lumens/W)
Correlated Color Temperature (CCT): 3964 (K)
CRI -Ra: 84.6488
CRI -R9: 13.6359
DUV: 0.0023
CIE Coordinate (x): 0.384
CIE Coordinate (y): 0.384
CIE Coordinate (u'): 0.224
CIE Coordinate (v'): 0.337
TM30_Rf: 84.9
TM30_Rg: 97.0
TM30_Rcs_hue1: -10.66 %



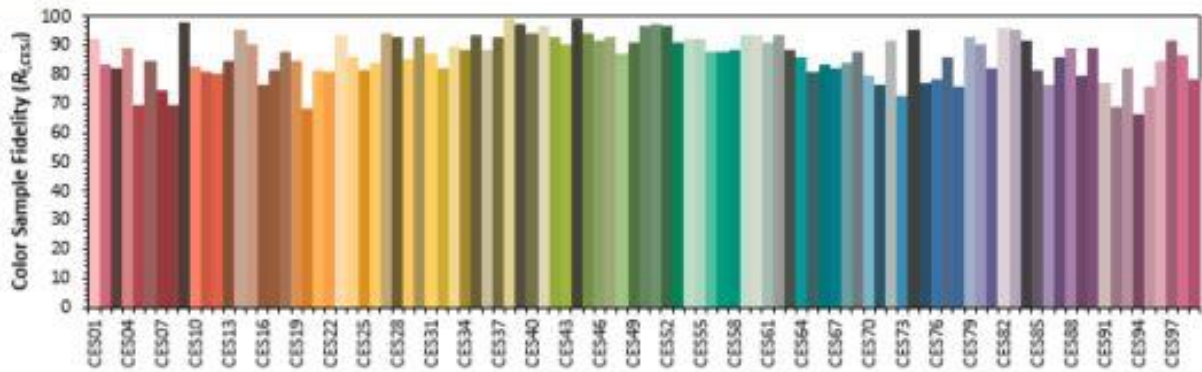
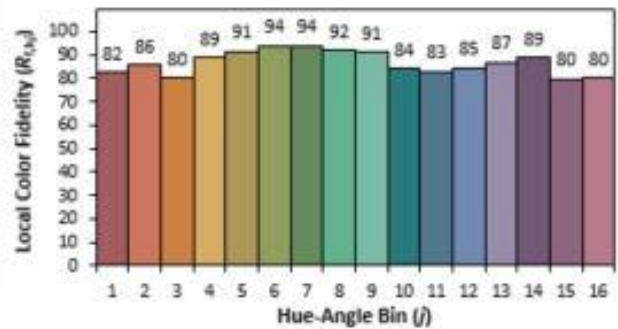
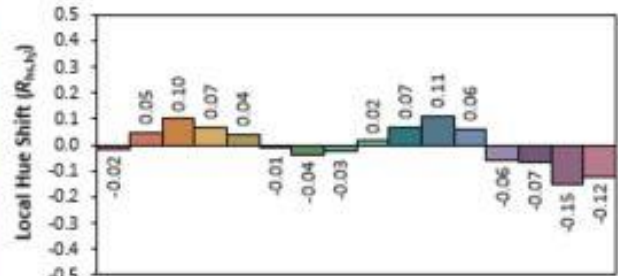
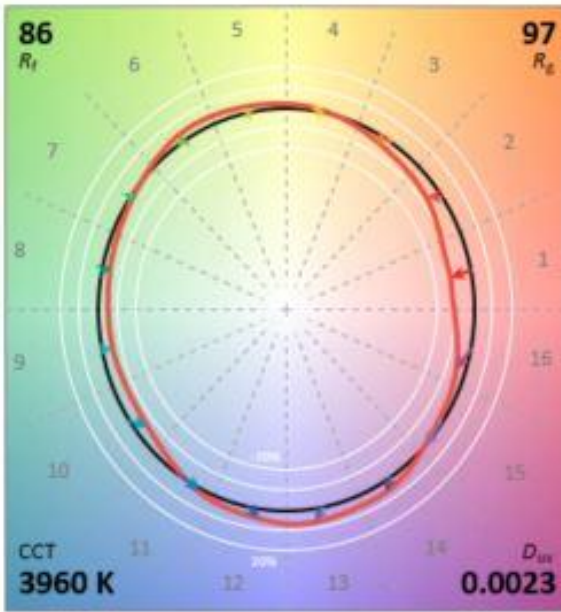
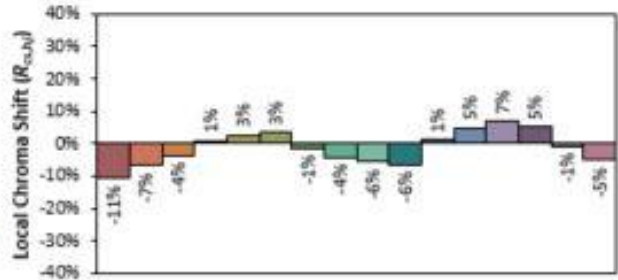
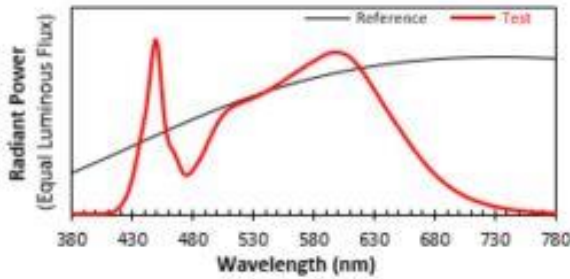
Test Results: Integrating Sphere

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	0.00019	490	0.07421	630	0.14023	770	0.00274
355	0.00020	495	0.08908	635	0.12937	775	0.00234
360	0.00027	500	0.10192	640	0.11877	780	0.00201
365	0.00038	505	0.11153	645	0.10843	785	0.00173
370	0.00055	510	0.11829	650	0.09823	790	0.00149
375	0.00077	515	0.12254	655	0.08830	795	0.00128
380	0.00101	520	0.12552	660	0.07866	800	0.00111
385	0.00118	525	0.12825	665	0.06962		
390	0.00126	530	0.13065	670	0.06102		
395	0.00127	535	0.13406	675	0.05323		
400	0.00127	540	0.13756	680	0.04627		
405	0.00144	545	0.14141	685	0.03991		
410	0.00224	550	0.14562	690	0.03439		
415	0.00476	555	0.15002	695	0.02953		
420	0.01078	560	0.15463	700	0.02523		
425	0.02246	565	0.15913	705	0.02150		
430	0.04382	570	0.16347	710	0.01834		
435	0.07559	575	0.16784	715	0.01570		
440	0.11070	580	0.17185	720	0.01342		
445	0.16167	585	0.17585	725	0.01144		
450	0.18811	590	0.17932	730	0.00972		
455	0.12833	595	0.18132	735	0.00827		
460	0.08275	600	0.18171	740	0.00701		
465	0.06816	605	0.17995	745	0.00600		
470	0.05252	610	0.17605	750	0.00513		
475	0.04563	615	0.16948	755	0.00438		
480	0.05120	620	0.16095	760	0.00375		
485	0.06130	625	0.15091	765	0.00320		

IES TM-30-18 Color Rendition Report



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

x 0.3839
 y 0.3840
 u' 0.2245
 v' 0.5052

CIE 13.3-1995
(CRI)
 R_a 85
 R_p 14

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21017.
Dialight unit model number F1x-4FN5-Bxxx-xxx

Electrical Measurements:

Input Voltage: 480 (VAC)
 Input current: 0.18929 (A)
 Input Power: 83.7 (W)
 Power Factor: 0.9284

Photometric measurements:

Absolute Luminous Flux: 10124.2 (lumens)
 Luminous Efficacy: 120.9 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1425	1434	1453	1479	1425	
5.00	1891	1723	1451	1267	1187	153
15.00	4398	3073	1577	1119	1015	684
25.00	7403	4053	1886	1011	680	1571
35.00	9168	3555	2200	949	579	2440
45.00	11254	4529	2277	907	470	3584
55.00	3036	5919	2190	858	400	1969
65.00	1111	747	931	287	314	686
75.00	398	97	99	103	498	336
85.00	18	9	14	13	46	14
90.00	1	1	2	3	1	

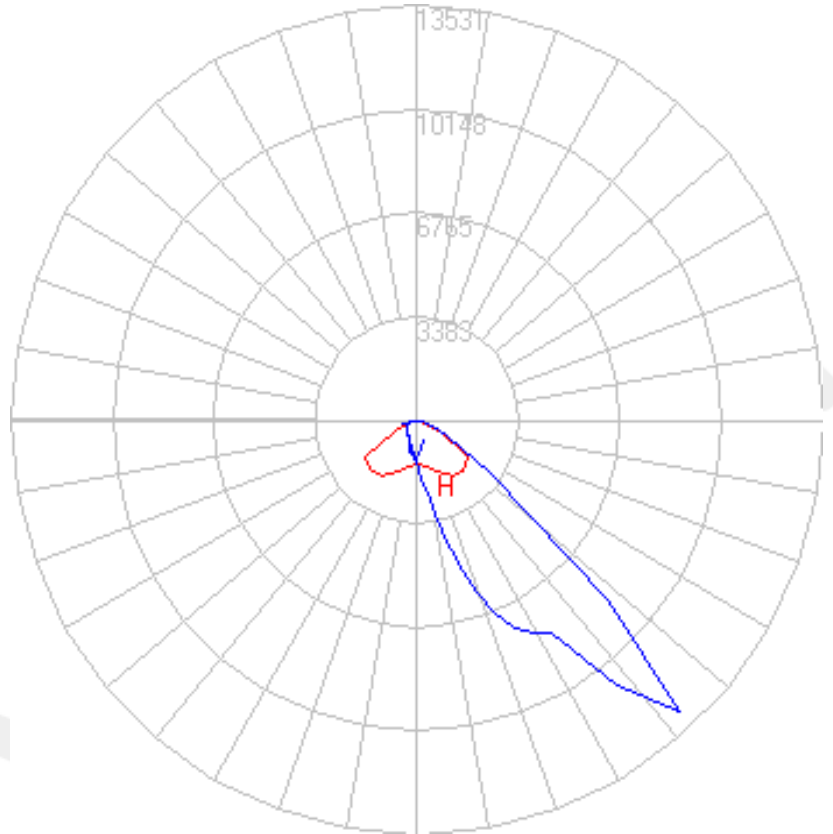
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	2075.31	20.50	20.50
0 to 40	4037.04	39.87	39.87
0 to 60	9209.78	90.97	90.97
0 to 90	10124.23	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	10124.23	100.00	100.00

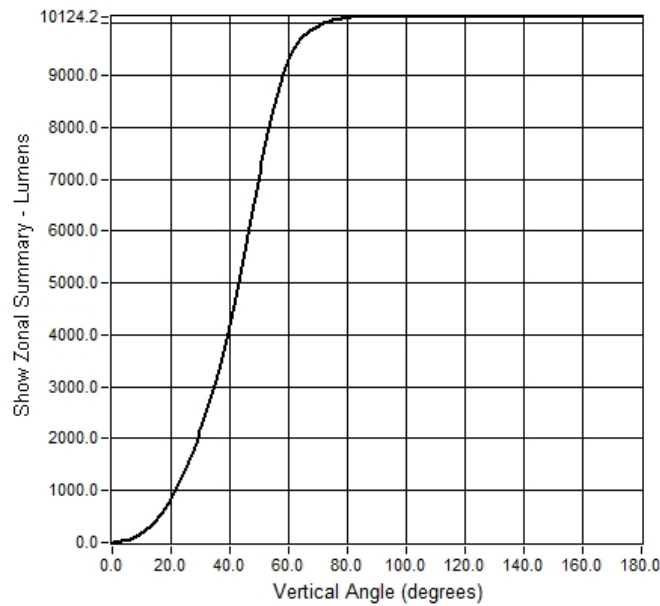
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



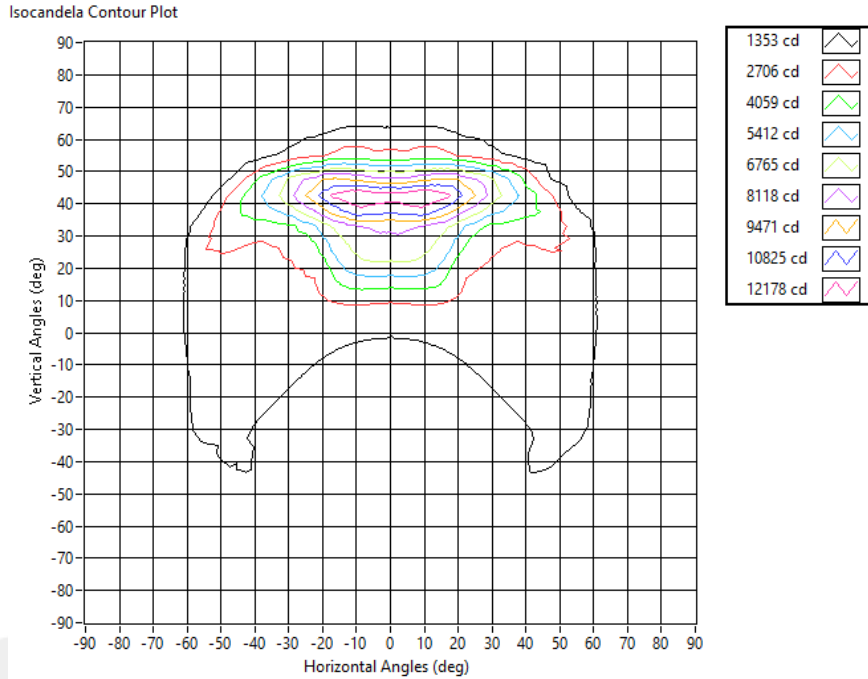
Zonal Flux Graph



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	6.55	8.87	363.8
4	13.09	17.74	91.0
6	19.64	26.61	40.4
8	26.18	35.47	22.7
10	32.73	44.34	14.6
12	39.28	53.21	10.1
14	45.82	62.08	7.4
16	52.37	70.95	5.7
18	58.91	79.82	4.5
20	65.46	88.68	3.6

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.

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Dialight Optics Laboratory
Optical Engineer
Approved Signatory