

Test Report

Report Number: L21081

Date: Jun 11, 2021

Issued by:

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

Test of one IECEx High Bay / Flood
Unit manufacturer: Dialight Corporation
Unit model number: HxA/FSA-7MN2-Bxxx-NGN

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: May 24, 2021 through May 24, 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:

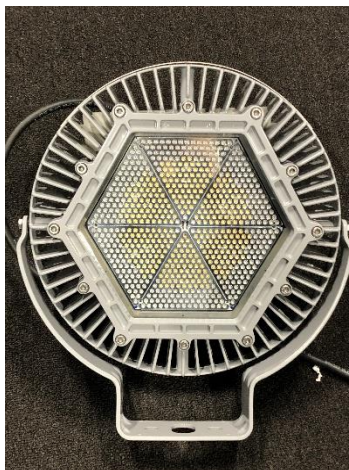
Sample Number: L21081
Manufacturer: Dialight Corporation
Product Name: Glass, Medium, NW, 100-277V, 11k
Description: IECEx High Bay / Flood
Model Number: HxA/FSA-7MN2-Bxxx-NGN

Report Summary

Sample number L21081

Dialight unit model number HxA/FSA-7MN2-Bxxx-NGN

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	10734 (lumens)	10833 (lumens)
Electrical Power:	80.1 (W)	80.1 (W)
Luminous Efficacy:	134 (lumens/W)	135.2 (lumens/W)

Electrical Measurements:

Input Power (230VAC): 80.1 (W)
 Power Factor (230VAC): 0.954493
 Current ATHD % (230VAC): 12.9826
 Input Power (110VAC): 80.2 (W)
 Power Factor (110VAC): 0.9915
 Current ATHD % (110VAC): 9.9

Color Measurements:

Correlated Color Temperature (CCT): 4107
 Color Rendering Index (CRI): 83.5957
 Chromaticity Coordinate (x): 0.376
 Chromaticity Coordinate (y): 0.375
 Chromaticity Coordinate (u'): 0.223
 Chromaticity Coordinate (v'): 0.334
 DUV: 0.0006

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21081.
Dialight unit model number HxA/FSA-7MN2-Bxxx-NGN

Test Conditions:

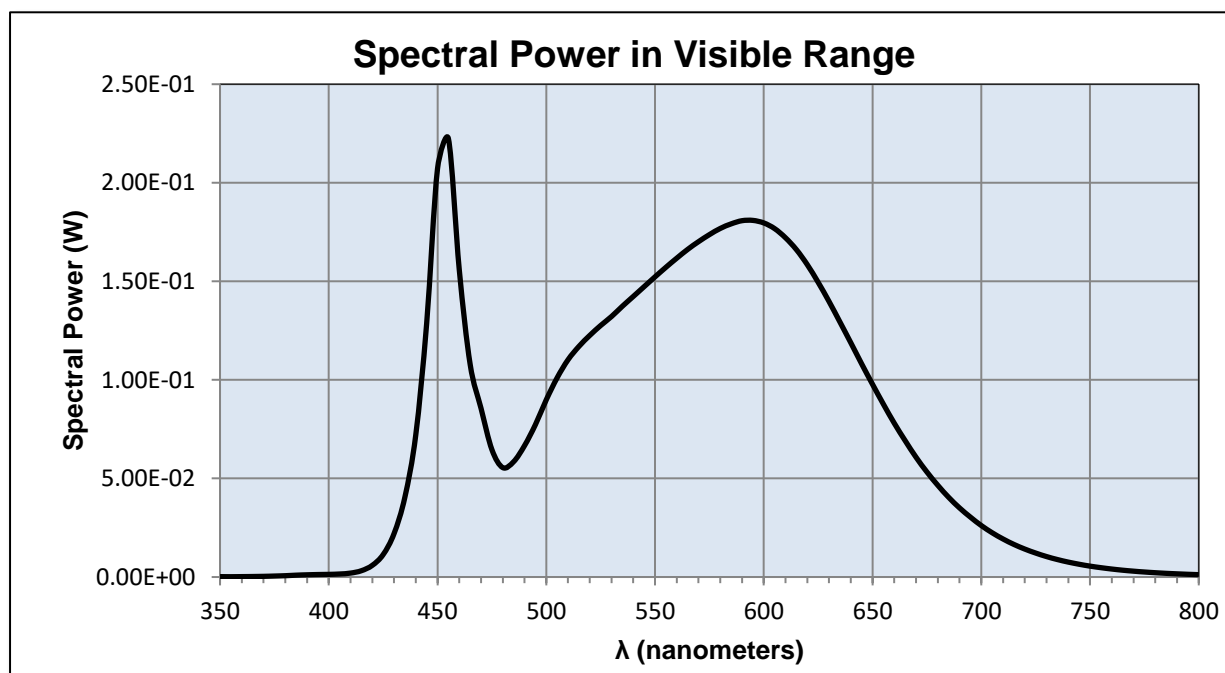
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 230 (VAC)
Input Current: 0.36471 (A)
Input Power: 80.1 (W)
Input Power Factor: 0.954493
Current ATHD: 12.9826 (%)

Photometric measurements:

Luminous Flux: 10734.09 (lumens)
Luminous Efficacy: 134.0 (lumens/W)
Correlated Color Temperature (CCT): 4107 (K)
CRI -Ra: 83.5957
CRI -R9: 14.2245
DUV: 0.0006
CIE Coordinate (x): 0.376
CIE Coordinate (y): 0.375
CIE Coordinate (u'): 0.223
CIE Coordinate (v'): 0.334
TM30_Rf: 81.9
TM30_Rg: 94.8
TM30_Rcs_hue1: -11.33 %



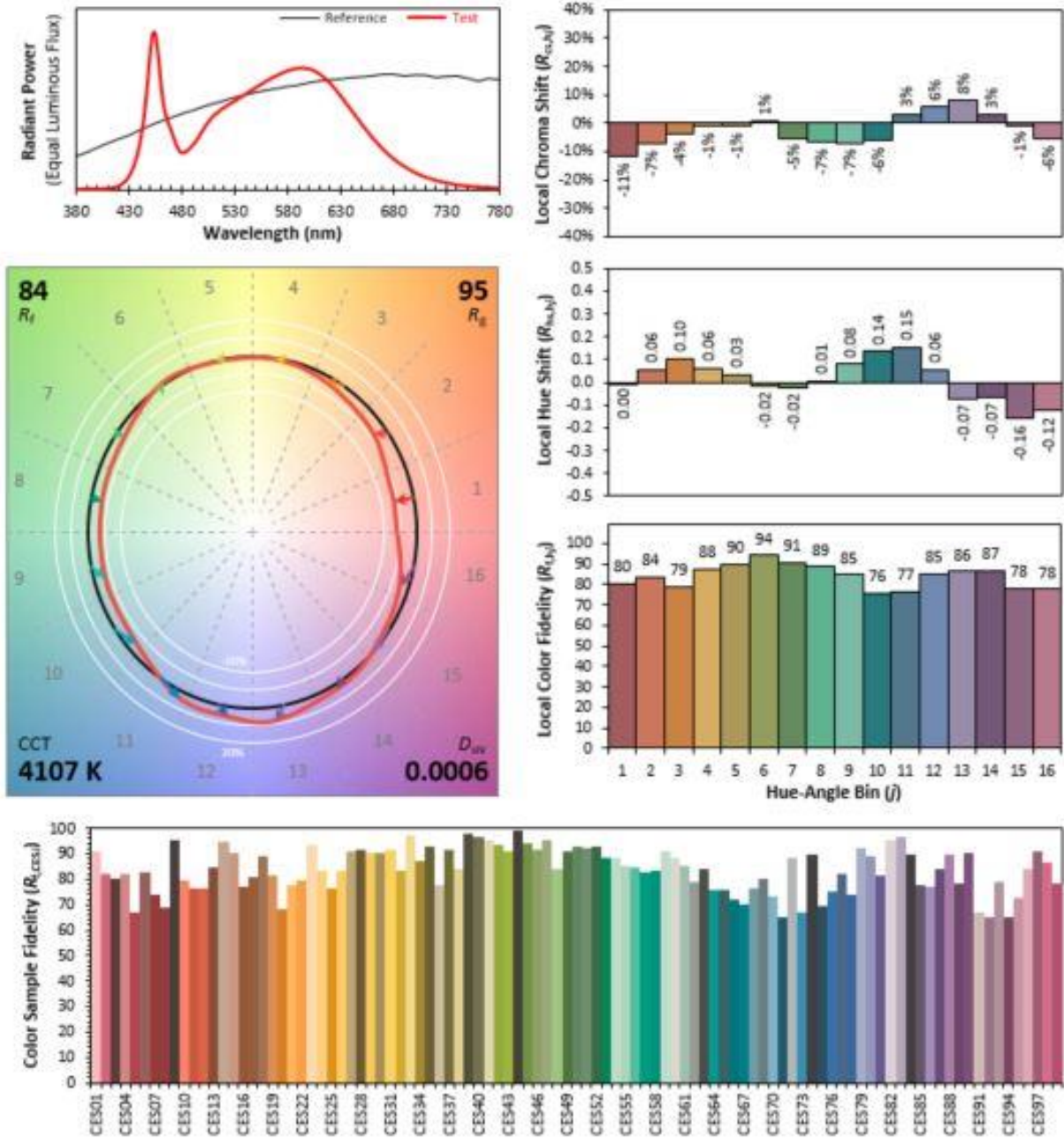
Test Results: Integrating Sphere

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	0.00020	490	0.06664	630	0.13979	770	0.00297
355	0.00016	495	0.07729	635	0.12940	775	0.00255
360	0.00021	500	0.08991	640	0.11887	780	0.00219
365	0.00026	505	0.10109	645	0.10815	785	0.00188
370	0.00035	510	0.11022	650	0.09777	790	0.00162
375	0.00049	515	0.11697	655	0.08768	795	0.00140
380	0.00068	520	0.12258	660	0.07803	800	0.00120
385	0.00094	525	0.12758	665	0.06917		
390	0.00113	530	0.13216	670	0.06078		
395	0.00126	535	0.13739	675	0.05330		
400	0.00135	540	0.14232	680	0.04656		
405	0.00154	545	0.14731	685	0.04043		
410	0.00200	550	0.15228	690	0.03507		
415	0.00320	555	0.15712	695	0.03039		
420	0.00591	560	0.16176	700	0.02614		
425	0.01139	565	0.16620	705	0.02247		
430	0.02202	570	0.17012	710	0.01930		
435	0.04058	575	0.17369	715	0.01655		
440	0.07208	580	0.17683	720	0.01419		
445	0.12856	585	0.17916	725	0.01217		
450	0.20719	590	0.18076	730	0.01038		
455	0.22238	595	0.18091	735	0.00887		
460	0.15577	600	0.17963	740	0.00757		
465	0.10792	605	0.17673	745	0.00648		
470	0.08560	610	0.17209	750	0.00553		
475	0.06461	615	0.16608	755	0.00474		
480	0.05550	620	0.15848	760	0.00406		
485	0.05852	625	0.14952	765	0.00346		

IES TM-30-18 Color Rendition Report



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

x 0.3762
 y 0.3753
 u' 0.2229
 v' 0.5003

CIE 13.3-1995	
(CRI)	
R_a	84
R_g	14

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21081.
Dialight unit model number HxA/FSA-7MN2-Bxxx-NGN

Electrical Measurements:

Input Voltage: 230 (VAC)
Input current: 0.36876 (A)
Input Power: 80.1 (W)
Power Factor: 0.9445

Photometric measurements:

Absolute Luminous Flux: 10832.7 (lumens)
Luminous Efficacy: 135.2 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	Lumens
0.00	4068	
5.00	4125	418
15.00	4390	1244
25.00	4765	2206
35.00	4586	2881
45.00	3223	2496
55.00	1381	1239
65.00	274	272
75.00	15	16
85.00	2	1
90.00	0	

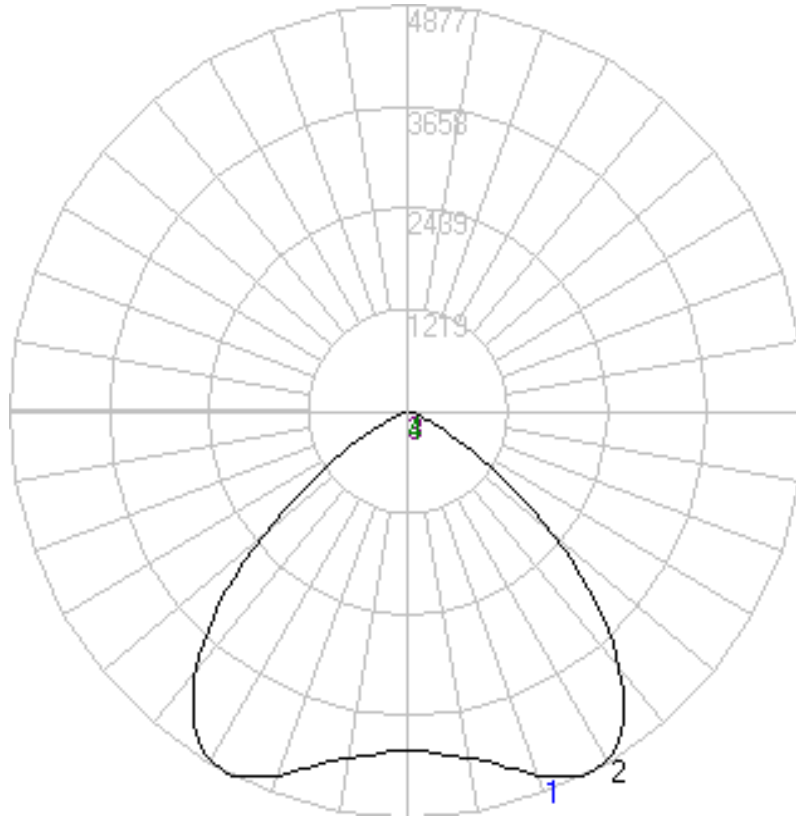
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	3888.36	35.89	35.89
0 to 40	6723.48	62.07	62.07
0 to 60	10489.81	96.83	96.83
0 to 90	10832.71	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	10832.71	100.00	100.00

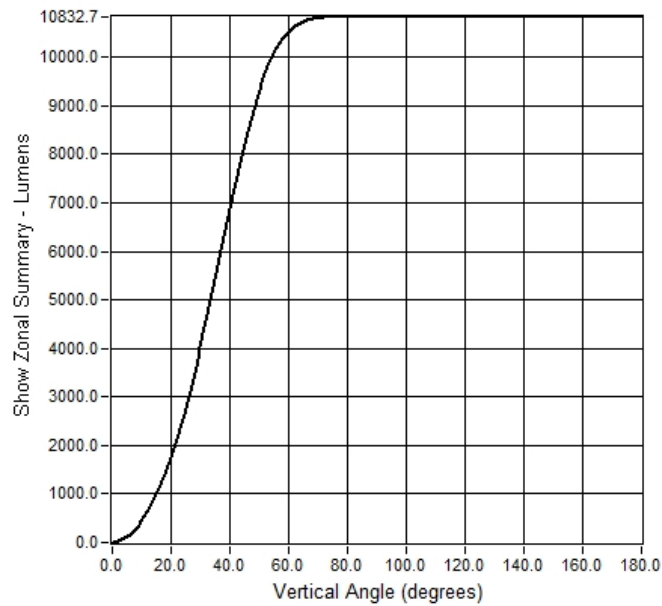
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



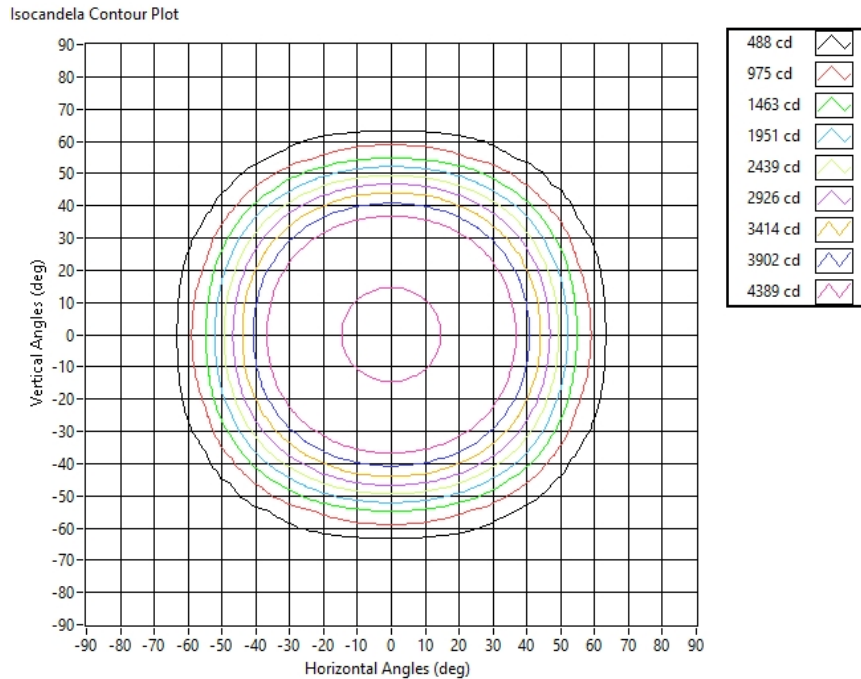
Zonal Flux Graph



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	1.54	1.53	4070.4
4	3.08	3.06	1017.6
6	4.63	4.60	452.3
8	6.17	6.13	254.4
10	7.71	7.66	162.8
12	9.25	9.19	113.1
14	10.80	10.73	83.1
16	12.34	12.26	63.6
18	13.88	13.79	50.3
20	15.42	15.32	40.7

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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 Optical Engineer
 Approved Signatory