

Test Report

Report Number: L21107

Date: Aug 10, 2021

Issued by:

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

Test of one Highbay

Unit manufacturer: Dialight Corporation

Unit model number: [K,V][C,E,F,W][D,U]-[7,R]EN-[2,8]Jx-xxx-xx

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: July 14, 2021 through July 14, 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: L21107

Manufacturer: Dialight Corporation

Product Name: Highbay

Description: Highbay

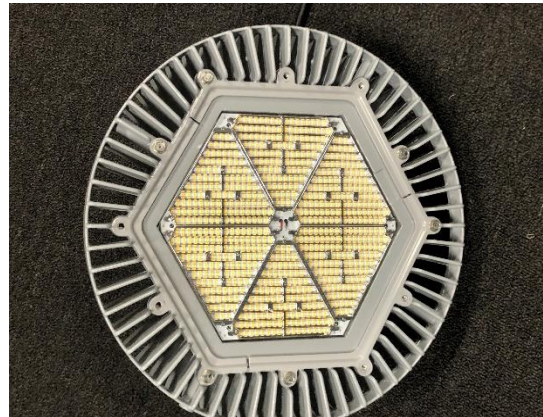
Model Number: [K,V][C,E,F,W][D,U]-[7,R]EN-[2,8]Jx-xxx-xx

Report Summary

Sample number L21107

Dialight unit model number [K,V][C,E,F,W][D,U]-[7,R]EN-[2,8]Jx-xxx-xx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	35640 (lumens)	36194 (lumens)
Electrical Power:	230.2 (W)	229.8 (W)
Luminous Efficacy:	154.8 (lumens/W)	157.5 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 230.2 (W)
 Power Factor (120VAC): 0.9956
 Current ATHD % (120VAC): 5.27
 Input Power (277VAC): 222.4 (W)
 Power Factor (277VAC): 0.9777
 Current ATHD % (277VAC): 9.80

Color Measurements:

Correlated Color Temperature (CCT): 4110
 Color Rendering Index (CRI): 80.43
 Chromaticity Coordinate (x): 0.377
 Chromaticity Coordinate (y): 0.377
 Chromaticity Coordinate (u'): 0.222
 Chromaticity Coordinate (v'): 0.501
 DUV: 0.0014

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21107.

Dialight unit model number [K,V][C,E,F,W][D,U]-[7,R]EN-[2,8]Jx-xxx-xx

Test Conditions:

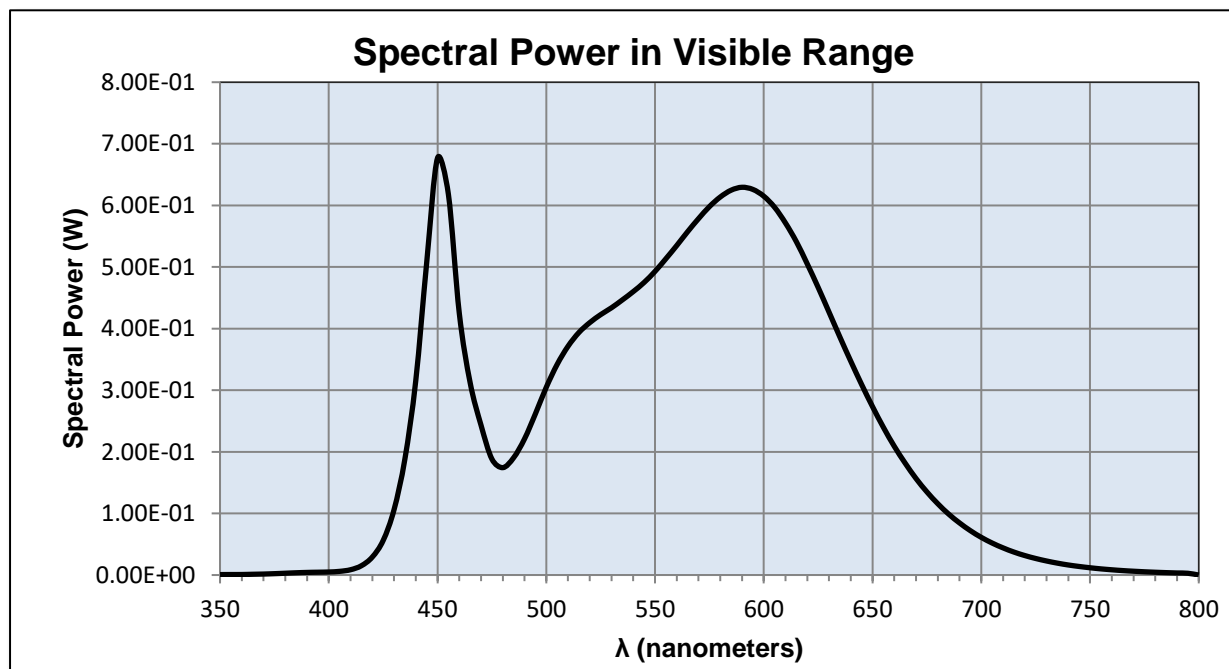
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120.0 (VAC)
Input Current: 1.924 (A)
Input Power: 230.2 (W)
Input Power Factor: 0.9956
Current ATHD: 5.27 (%)

Photometric measurements:

Luminous Flux: 35639.7 (lumens)
Luminous Efficacy: 154.8 (lumens/W)
Correlated Color Temperature (CCT): 4110 (K)
CRI -Ra: 80.43
CRI -R9: -8.21
DUV: 0.0014
CIE Coordinate (x): 0.377
CIE Coordinate (y): 0.377
CIE Coordinate (u'): 0.222
CIE Coordinate (v'): 0.501
TM30_Rf: 82.4
TM30_Rg: 94.0
TM30_Rcs_hue1: -14.06 %



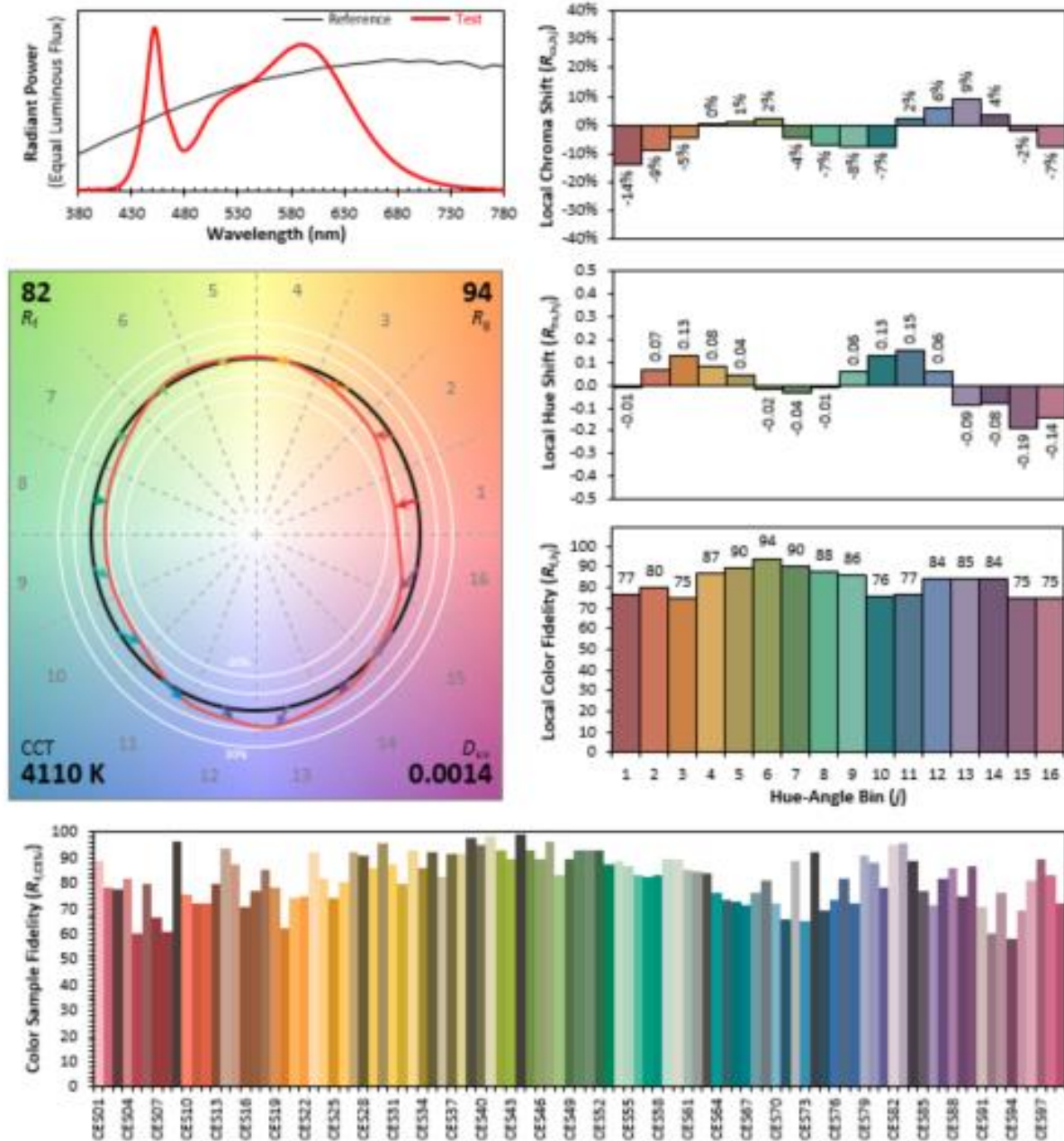
Test Results: Integrating Sphere

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	0.00071	490	0.22098	630	0.42677	770	0.00618
355	0.00081	495	0.26167	635	0.38628	775	0.00529
360	0.00085	500	0.30477	640	0.34702	780	0.00452
365	0.00123	505	0.34189	645	0.30926	785	0.00389
370	0.00160	510	0.37134	650	0.27339	790	0.00333
375	0.00218	515	0.39367	655	0.23976	795	0.00285
380	0.00294	520	0.40970	660	0.20899	800	0.00247
385	0.00369	525	0.42268	665	0.18164		
390	0.00424	530	0.43388	670	0.15671		
395	0.00458	535	0.44668	675	0.13497		
400	0.00491	540	0.46010	680	0.11577		
405	0.00595	545	0.47498	685	0.09895		
410	0.00860	550	0.49290	690	0.08455		
415	0.01511	555	0.51346	695	0.07199		
420	0.02911	560	0.53496	700	0.06116		
425	0.05606	565	0.55740	705	0.05193		
430	0.10605	570	0.57848	710	0.04408		
435	0.18849	575	0.59799	715	0.03731		
440	0.31557	580	0.61364	720	0.03164		
445	0.50646	585	0.62472	725	0.02686		
450	0.67698	590	0.62943	730	0.02281		
455	0.61783	595	0.62596	735	0.01931		
460	0.42493	600	0.61500	740	0.01631		
465	0.31222	605	0.59684	745	0.01390		
470	0.24324	610	0.57133	750	0.01180		
475	0.18830	615	0.54096	755	0.00999		
480	0.17431	620	0.50505	760	0.00851		
485	0.19048	625	0.46696	765	0.00721		

IES TM-30-18 Color Rendition Report



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

x 0.3766
 y 0.3773
 u' 0.2224
 v' 0.5013

CIE 13.3-1995
(CRI)

R_a 80
 R_g -8

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21107.

Dialight unit model number [K,V][C,E,F,W][D,U]-[7,R]EN-[2,8]Jx-xxx-xx

Electrical Measurements:

Input Voltage: 120.0 (VAC)
 Input current: 1.92 (A)
 Input Power: 229.81 (W)
 Power Factor: 0.9954

Photometric measurements:

Absolute Luminous Flux: 36194.3 (lumens)
 Luminous Efficacy: 157.5 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	25455	25498	25526	25535	25455	
5.00	24400	24887	25416	24782	23488	2477
15.00	17100	19936	24590	19591	15866	5192
25.00	12770	14331	22841	14095	12404	6608
35.00	10864	11292	20176	11228	10482	7543
45.00	5315	9178	16605	9184	4036	5648
55.00	396	3952	11924	3886	321	2417
65.00	102	382	7074	357	93	1030
75.00	76	88	2302	83	84	380
85.00	14	14	30	14	7	8
90.00	1	1	3	1	1	

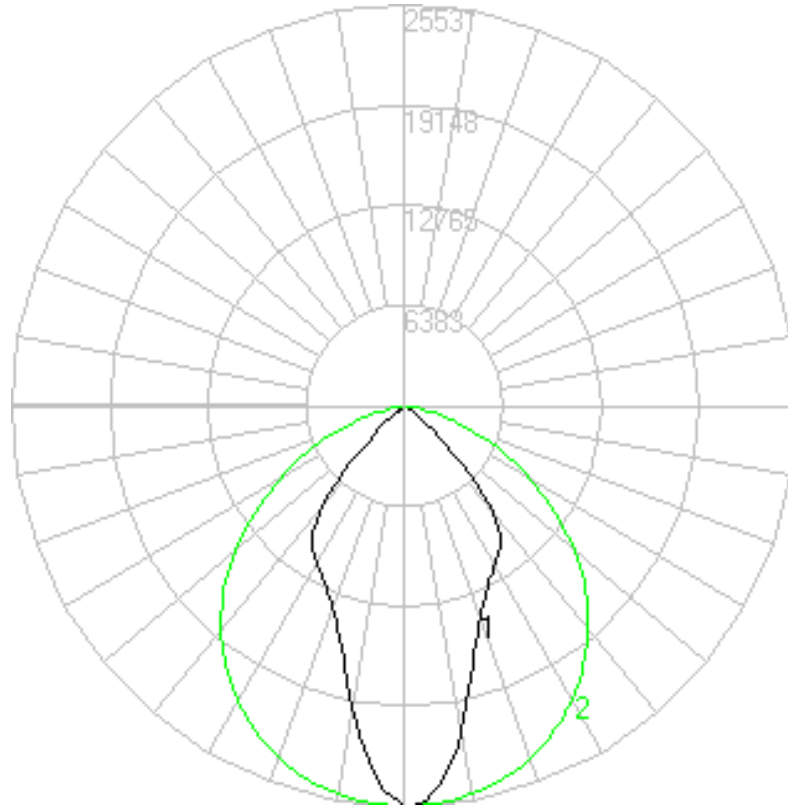
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	15203.06	42.00	42.00
0 to 40	23238.08	64.20	64.20
0 to 60	34040.22	94.05	94.05
0 to 90	36194.35	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	36194.35	100.00	100.00

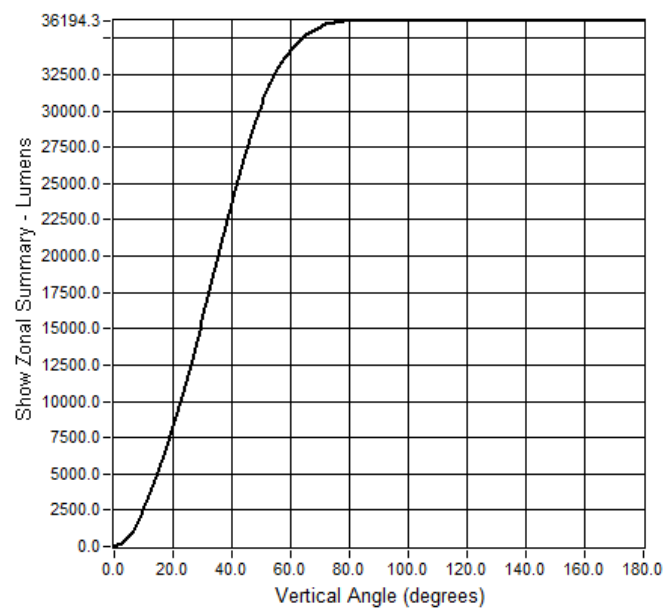
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



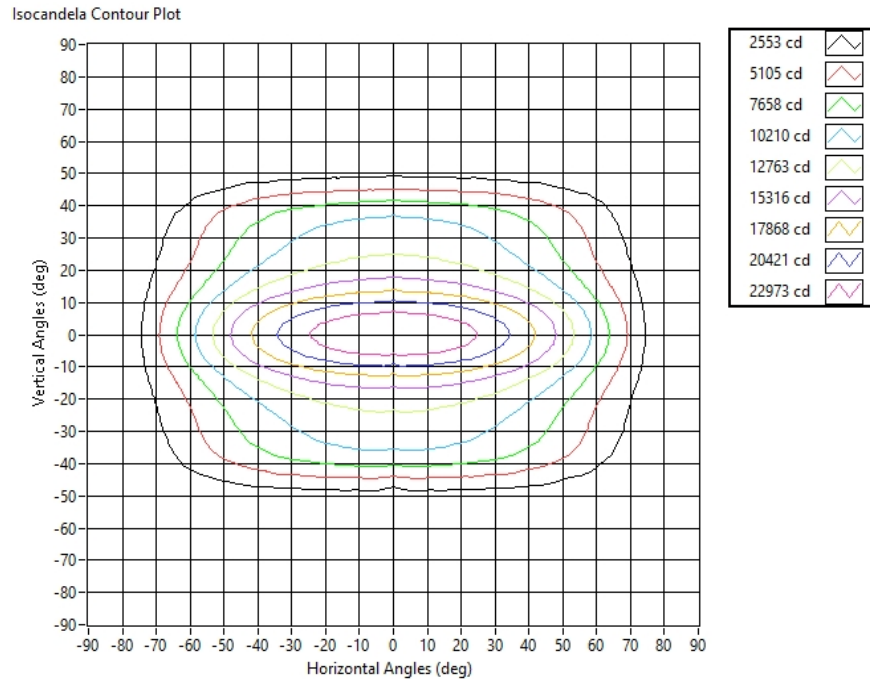
Zonal Flux Graph



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	1.85	5.43	6379.6
4	3.70	10.86	1594.9
6	5.54	16.29	708.8
8	7.39	21.72	398.7
10	9.24	27.15	255.2
12	11.09	32.58	177.2
14	12.94	38.01	130.2
16	14.78	43.44	99.7
18	16.63	48.87	78.8
20	18.48	54.31	63.8

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 Spectrameter- 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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Optical Engineer
Approved Signatory