

Test Report

Report Number: L21109

Date: Aug 11, 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]-[L,Z]EN-[2,8]Hx-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 28, 2021 through July 28, 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: L21109

Manufacturer: Dialight Corporation

Product Name: Highbay

Description: Highbay

Model Number: [K,V][C,E,F,W][D,U]-[L,Z]EN-[2,8]Hx-xxx-xx

Report Summary

Sample number L21109

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]EN-[2,8]Hx-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:	30966 (lumens)	31029 (lumens)
Electrical Power:	195.8 (W)	195.5 (W)
Luminous Efficacy:	158.2 (lumens/W)	158.7 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 195.8 (W)
 Power Factor (120VAC): 0.9956
 Current ATHD % (120VAC): 4.94
 Input Power (277VAC): 191.1 (W)
 Power Factor (277VAC): 0.9620
 Current ATHD % (277VAC): 8.90

Color Measurements:

Correlated Color Temperature (CCT): 4079
 Color Rendering Index (CRI): 80.47
 Chromaticity Coordinate (x): 0.378
 Chromaticity Coordinate (y): 0.379
 Chromaticity Coordinate (u'): 0.223
 Chromaticity Coordinate (v'): 0.502
 DUV: 0.0016

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21109.

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]EN-[2,8]Hx-xxx-xx

Test Conditions:

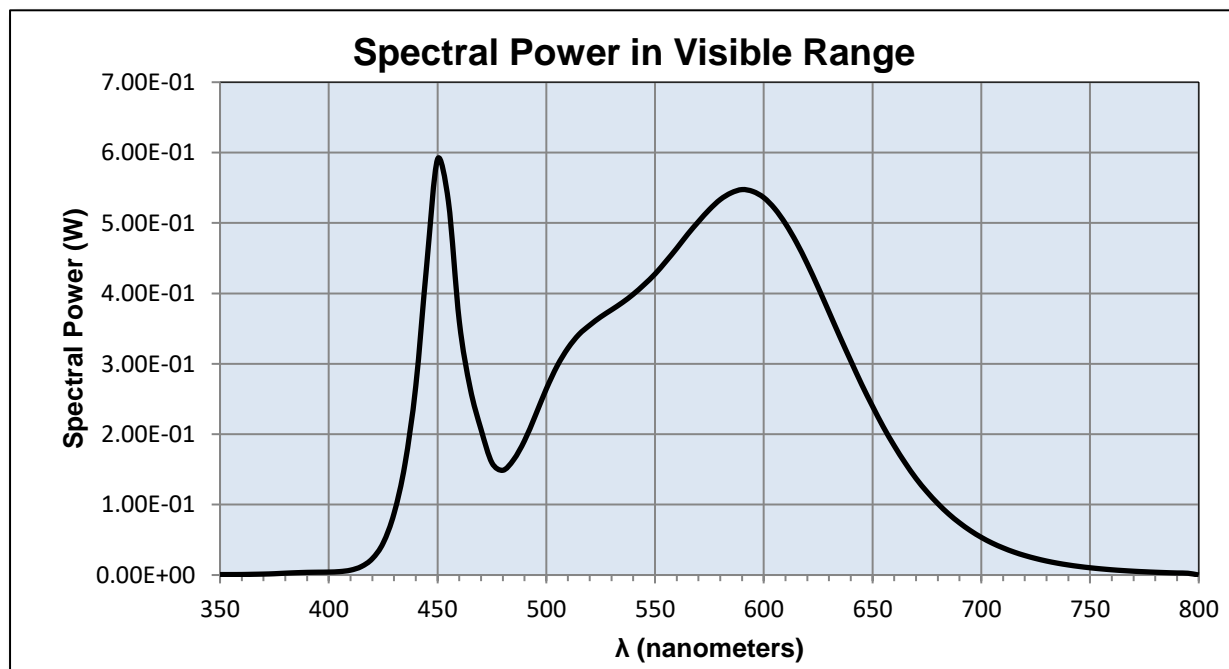
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120.2 (VAC)
Input Current: 1.637 (A)
Input Power: 195.8 (W)
Input Power Factor: 0.9956
Current ATHD: 4.94 (%)

Photometric measurements:

Luminous Flux: 30965.8 (lumens)
Luminous Efficacy: 158.2 (lumens/W)
Correlated Color Temperature (CCT): 4079 (K)
CRI -Ra: 80.47
CRI -R9: -7.91
DUV: 0.0016
CIE Coordinate (x): 0.378
CIE Coordinate (y): 0.379
CIE Coordinate (u'): 0.223
CIE Coordinate (v'): 0.502
TM30_Rf: 82.5
TM30_Rg: 94.1
TM30_Rcs_hue1: -13.97 %



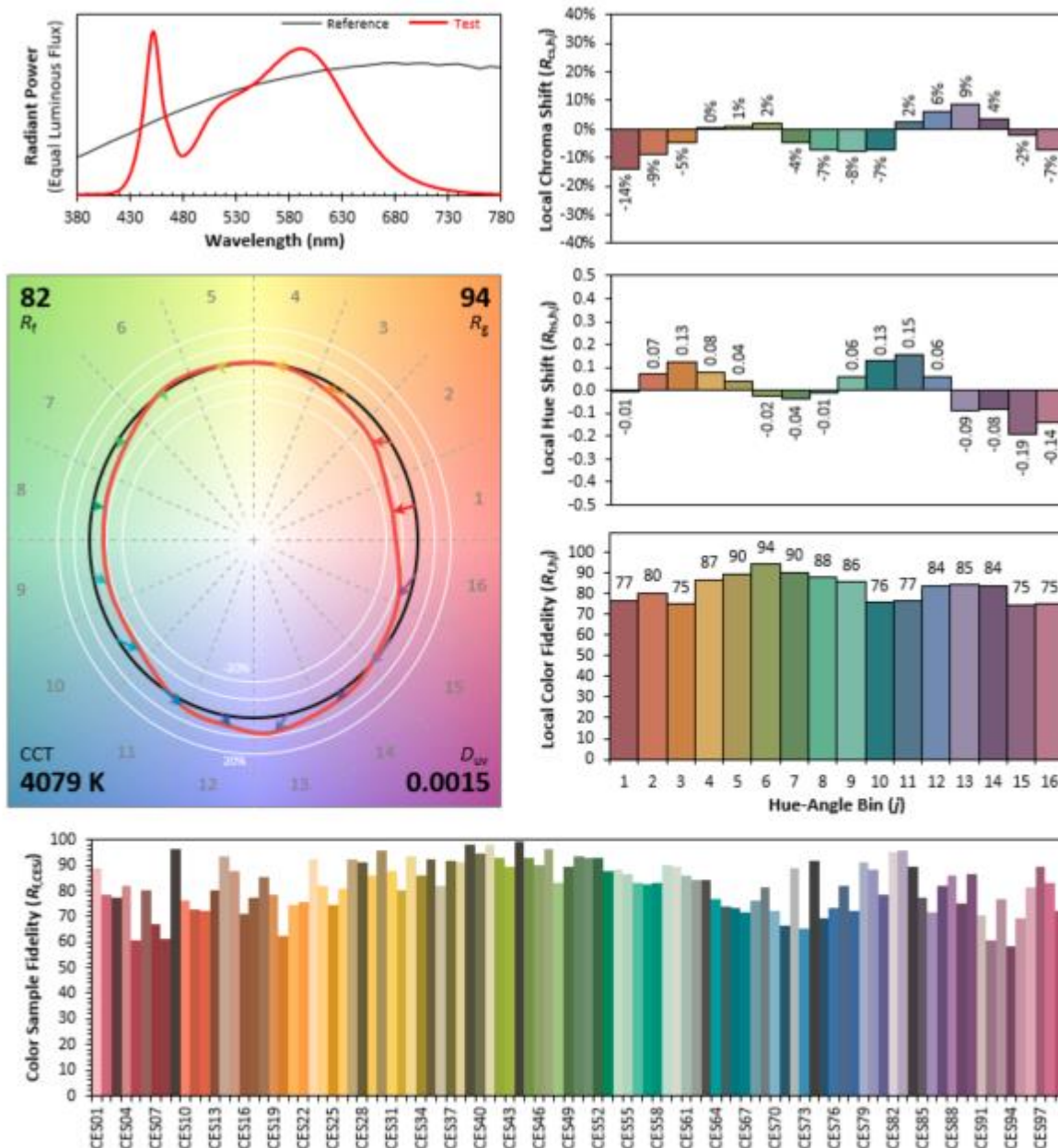
Test Results: Integrating Sphere

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	0.00069	490	0.19084	630	0.37356	770	0.00540
355	0.00066	495	0.22665	635	0.33840	775	0.00463
360	0.00076	500	0.26421	640	0.30425	780	0.00396
365	0.00105	505	0.29697	645	0.27082	785	0.00340
370	0.00133	510	0.32243	650	0.23980	790	0.00292
375	0.00184	515	0.34163	655	0.21018	795	0.00251
380	0.00264	520	0.35491	660	0.18349	800	0.00214
385	0.00327	525	0.36660	665	0.15921		
390	0.00376	530	0.37668	670	0.13720		
395	0.00399	535	0.38707	675	0.11832		
400	0.00420	540	0.39883	680	0.10158		
405	0.00487	545	0.41249	685	0.08676		
410	0.00691	550	0.42756	690	0.07412		
415	0.01208	555	0.44541	695	0.06304		
420	0.02316	560	0.46413	700	0.05355		
425	0.04540	565	0.48400	705	0.04541		
430	0.08742	570	0.50210	710	0.03857		
435	0.15714	575	0.51915	715	0.03267		
440	0.26823	580	0.53337	720	0.02772		
445	0.43935	585	0.54282	725	0.02353		
450	0.59051	590	0.54750	730	0.01987		
455	0.53066	595	0.54480	735	0.01685		
460	0.36041	600	0.53612	740	0.01429		
465	0.26579	605	0.52048	745	0.01214		
470	0.20692	610	0.49895	750	0.01032		
475	0.15949	615	0.47257	755	0.00879		
480	0.14875	620	0.44208	760	0.00744		
485	0.16383	625	0.40857	765	0.00634		

IES TM-30-18 Color Rendition Report



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

x 0.3780
 y 0.3785
 u' 0.2228
 v' 0.5020

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 L21109.
Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]EN-[2,8]Hx-xxx-xx

Electrical Measurements:

Input Voltage: 120.0 (VAC)
Input current: 1.64 (A)
Input Power: 195.53 (W)
Power Factor: 0.9947

Photometric measurements:

Absolute Luminous Flux: 31028.5 (lumens)
Luminous Efficacy: 158.7 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	17993	18000	18008	18008	17993	
5.00	17656	17576	17870	17927	17295	1787
15.00	14662	14152	16313	17064	13949	4219
25.00	11230	10741	13632	15314	10746	5475
35.00	8864	8427	10775	12942	8601	5953
45.00	6112	5105	8316	10201	5578	5116
55.00	2504	1729	5875	7349	1987	2936
65.00	843	648	2753	4582	729	1478
75.00	450	398	733	1775	425	674
85.00	304	300	324	410	301	251
90.00	276	278	276	303	281	

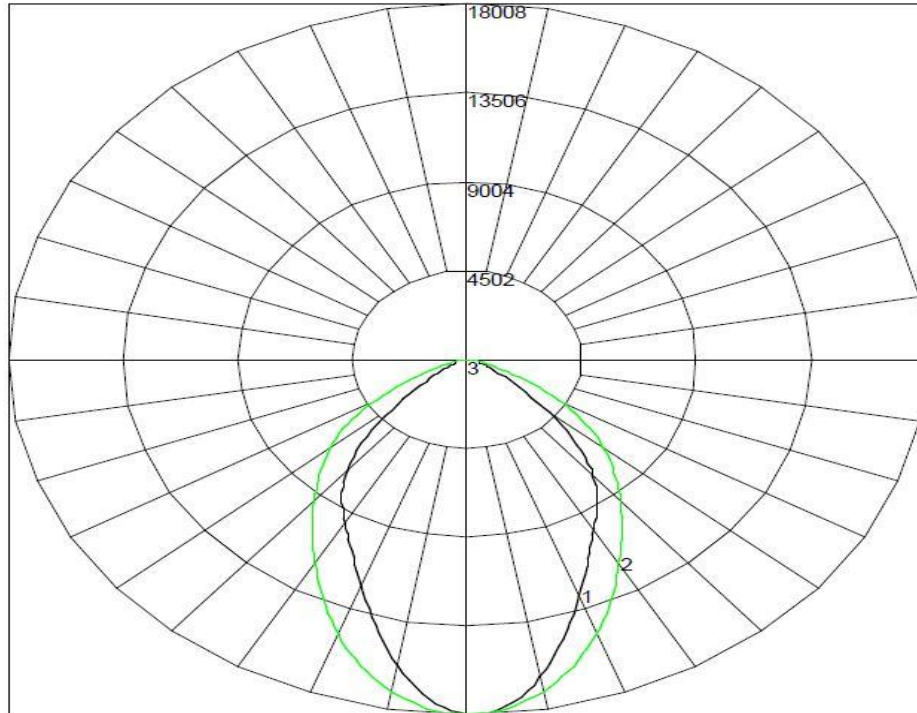
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	11729.53	37.80	37.80
0 to 40	18075.64	58.26	58.26
0 to 60	27599.17	88.95	88.95
0 to 90	31028.47	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	31028.47	100.00	100.00

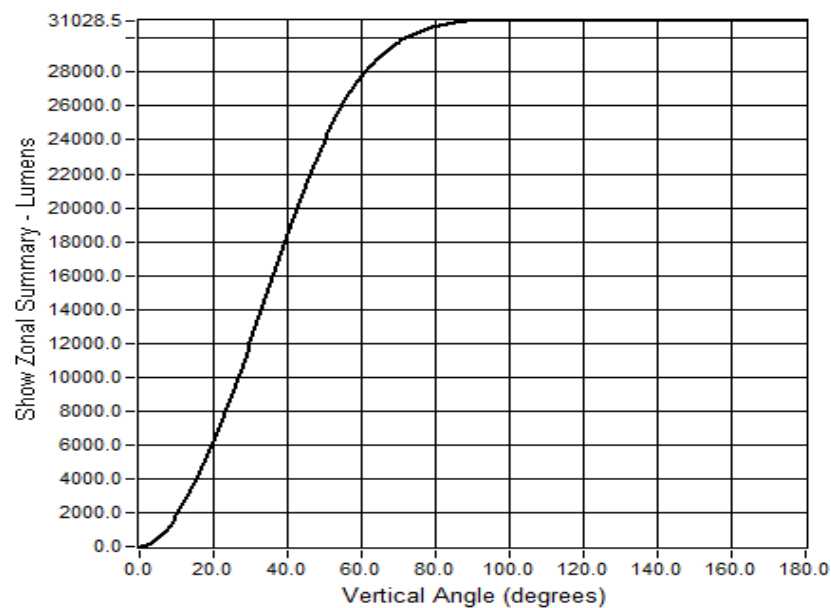
Test Results: Goniometer

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Polar Plot:



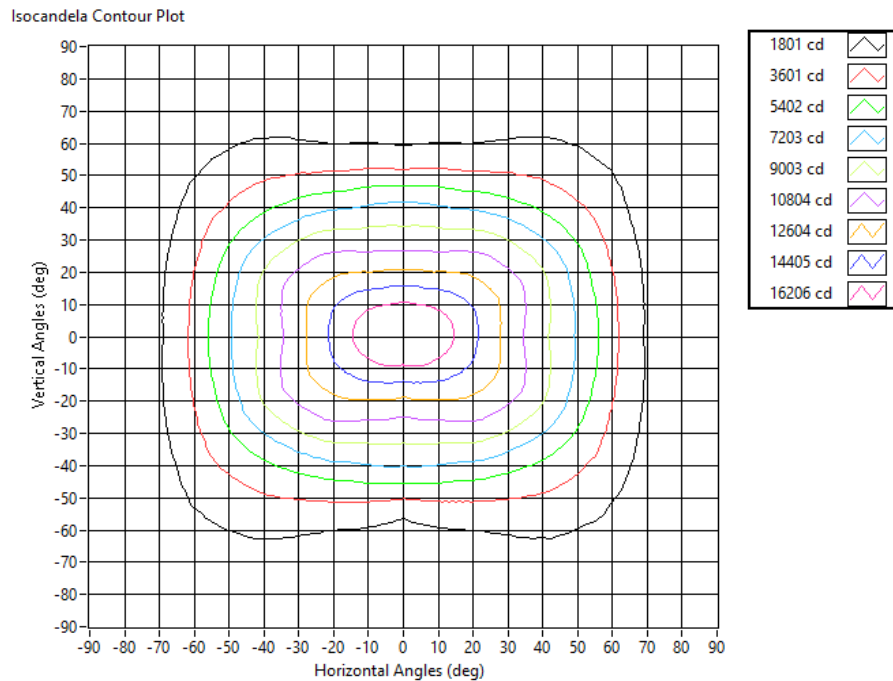
Zonal Flux Graph



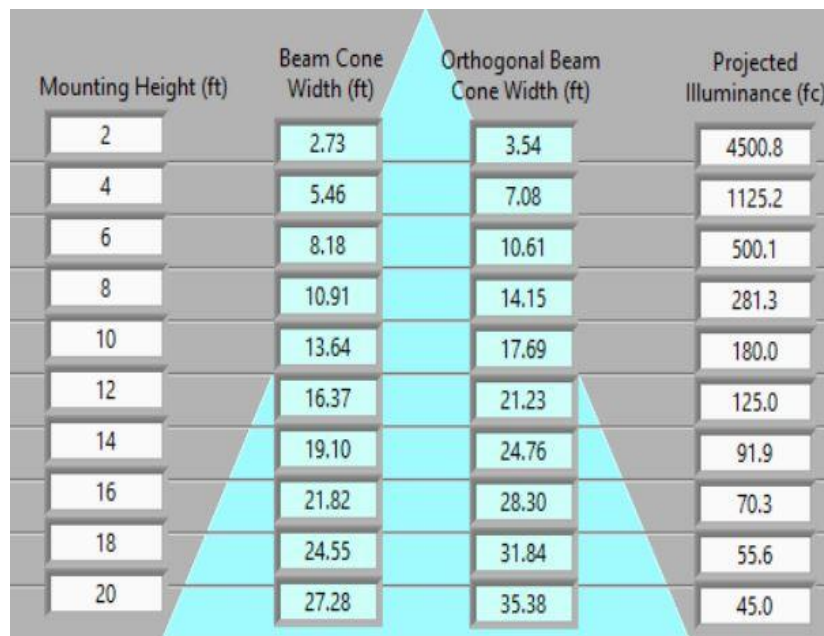
Test Results: Goniometer

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 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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