

Test Report

Report Number: L20099

Date: Jan 12, 2021

Issued by:

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

Test of one High Bay

Unit manufacturer: Dialight Corporation

Unit model number: H[C,E,F,W][D,U]-[L,Z]EC-[5,9]Bx-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: November 19, 2020 through November 20, 2020

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: L20099

Manufacturer: Dialight Corporation

Product Name: High Bay

Description: High Bay

Model Number: H[C,E,F,W][D,U]-[L,Z]EC-[5,9]Bx-xxx-xx

Report Summary

Sample number L20099

Dialight unit model number H[C,E,F,W][D,U]-[L,Z]EC-[5,9]Bx-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:	12914 (lumens)	12786 (lumens)
Electrical Power:	99.0 (W)	99.0 (W)
Luminous Efficacy:	130.5 (lumens/W)	129.2 (lumens/W)

Electrical Measurements:

Input Power (480VAC): 99.0 (W)
 Power Factor (480VAC): 0.946943
 Current ATHD % (480VAC): 13.0372
 Input Power (347VAC): 978.3 (W)
 Power Factor (347VAC): 0.9875
 Current ATHD % (347VAC): 98.31

Color Measurements:

Correlated Color Temperature (CCT): 4892
 Color Rendering Index (CRI): 83.863
 Chromaticity Coordinate (x): 0.349
 Chromaticity Coordinate (y): 0.363
 Chromaticity Coordinate (u'): 0.210
 Chromaticity Coordinate (v'): 0.327
 DUV: 0.0041

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20099.

Dialight unit model number H[C,E,F,W][D,U]-[L,Z]EC-[5,9]Bx-xxx-xx

Test Conditions:

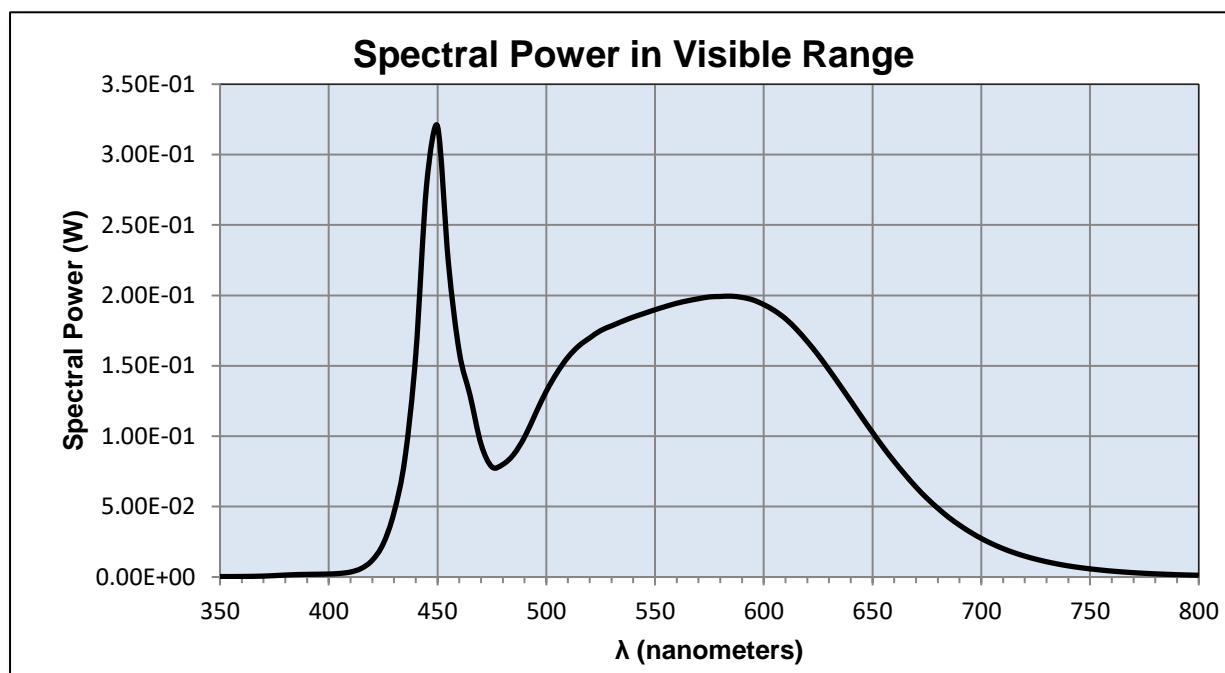
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 480 (VAC)
Input Current: 0.217678 (A)
Input Power: 99.0 (W)
Input Power Factor: 0.946943
Current ATHD: 13.0372 (%)

Photometric measurements:

Luminous Flux: 12913.99 (lumens)
Luminous Efficacy: 130.5 (lumens/W)
Correlated Color Temperature (CCT): 4892 (K)
CRI -Ra: 83.863
CRI -R9: 14.6593
DUV: 0.0041
CIE Coordinate (x): 0.349
CIE Coordinate (y): 0.363
CIE Coordinate (u'): 0.210
CIE Coordinate (v'): 0.327
TM30_Rf: 83.4
TM30_Rg: 96.0
TM30_Rcs_hue1: -10.92 %



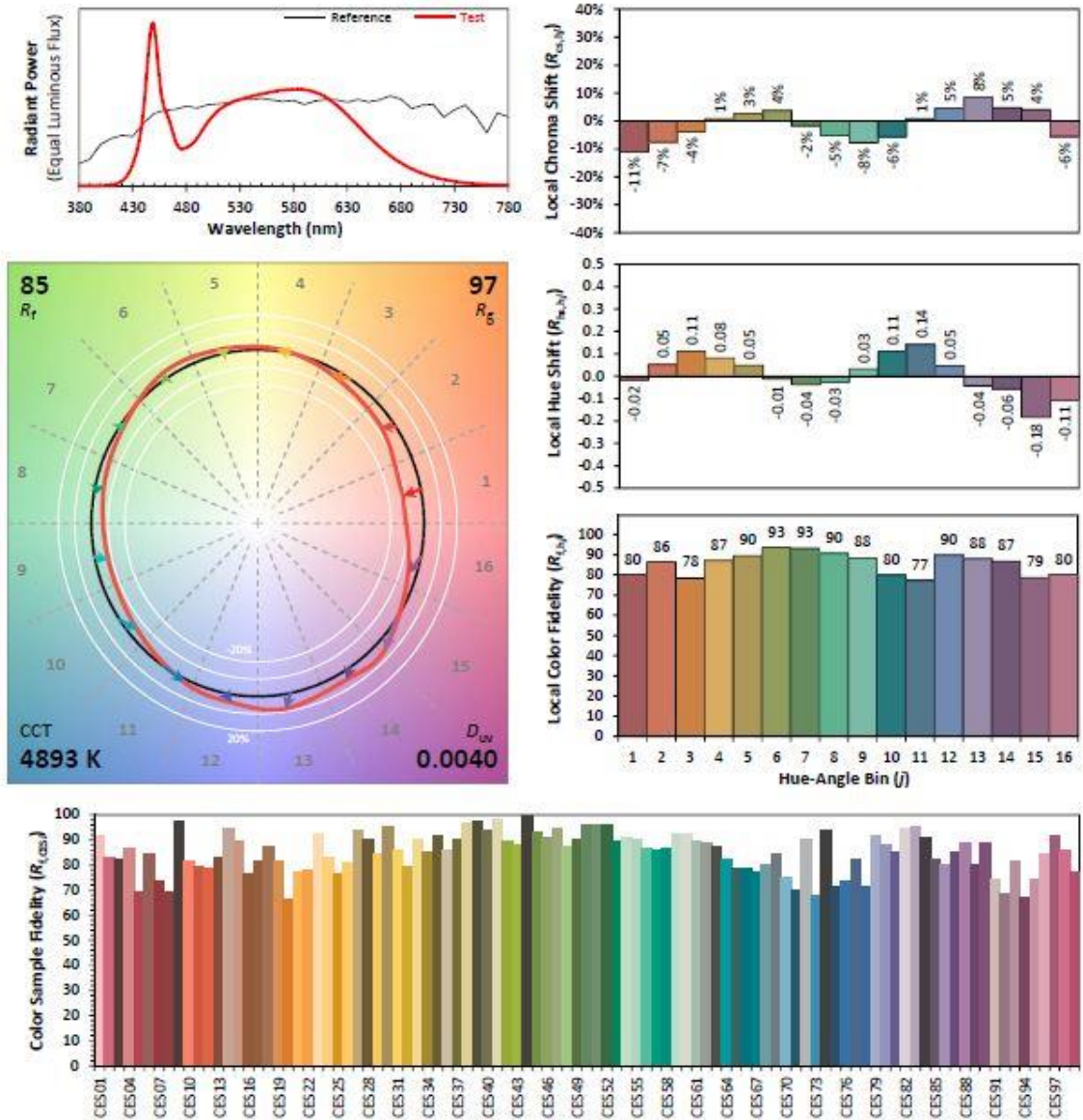
Test Results: Integrating Sphere

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	0.00031	490	0.09932	630	0.14717	770	0.00308
355	0.00033	495	0.11585	635	0.13618	775	0.00264
360	0.00040	500	0.13194	640	0.12498	780	0.00227
365	0.00049	505	0.14525	645	0.11367	785	0.00195
370	0.00067	510	0.15619	650	0.10270	790	0.00167
375	0.00101	515	0.16419	655	0.09201	795	0.00143
380	0.00140	520	0.16983	660	0.08204	800	0.00124
385	0.00173	525	0.17502	665	0.07271		
390	0.00189	530	0.17838	670	0.06388		
395	0.00201	535	0.18162	675	0.05598		
400	0.00216	540	0.18461	680	0.04889		
405	0.00256	545	0.18720	685	0.04241		
410	0.00357	550	0.18983	690	0.03685		
415	0.00615	555	0.19222	695	0.03183		
420	0.01192	560	0.19443	700	0.02741		
425	0.02353	565	0.19619	705	0.02357		
430	0.04592	570	0.19766	710	0.02021		
435	0.08420	575	0.19894	715	0.01733		
440	0.15785	580	0.19924	720	0.01486		
445	0.27886	585	0.19946	725	0.01273		
450	0.32007	590	0.19860	730	0.01087		
455	0.22321	595	0.19681	735	0.00928		
460	0.15984	600	0.19348	740	0.00792		
465	0.12876	605	0.18910	745	0.00678		
470	0.09442	610	0.18343	750	0.00580		
475	0.07824	615	0.17598	755	0.00495		
480	0.07994	620	0.16725	760	0.00423		
485	0.08706	625	0.15772	765	0.00361		

IES TM-30-18 Color Rendition Report



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

x 0.3491
y 0.3630
u' 0.2098
v' 0.4907

CIE 13.3-1995 (CRI)	
R_a	84
R_g	15

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L20099.
Dialight unit model number H[C,E,F,W][D,U]-[L,Z]EC-[5,9]Bx-xxx-xx

Electrical Measurements:

Input Voltage: 480 (VAC)
Input current: 0.21788 (A)
Input Power: 99.0 (W)
Power Factor: 0.9463

Photometric measurements:

Absolute Luminous Flux: 12786.4 (lumens)
Luminous Efficacy: 129.2 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	7264	7265	7246	7233	7264	
5.00	6908	7015	7205	7241	7136	718
15.00	5431	5966	6968	6486	5849	1687
25.00	4112	4714	6480	5204	4484	2192
35.00	2982	3673	5802	4037	3464	2326
45.00	1478	2624	4914	3061	2052	1880
55.00	492	1293	3865	1793	722	1120
65.00	206	424	2643	619	279	608
75.00	119	161	1272	207	156	308
85.00	75	80	239	99	93	78
90.00	67	68	115	77	74	

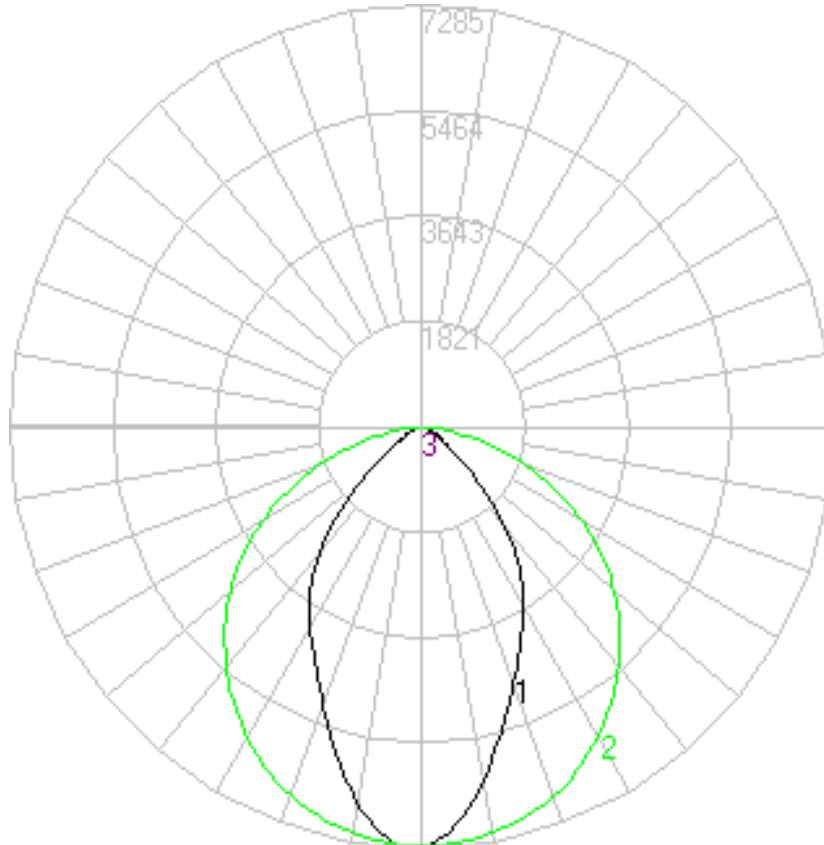
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	4804.64	37.58	37.58
0 to 40	7391.36	57.81	57.81
0 to 60	11324.81	88.57	88.57
0 to 90	12786.37	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	12786.37	100.00	100.00

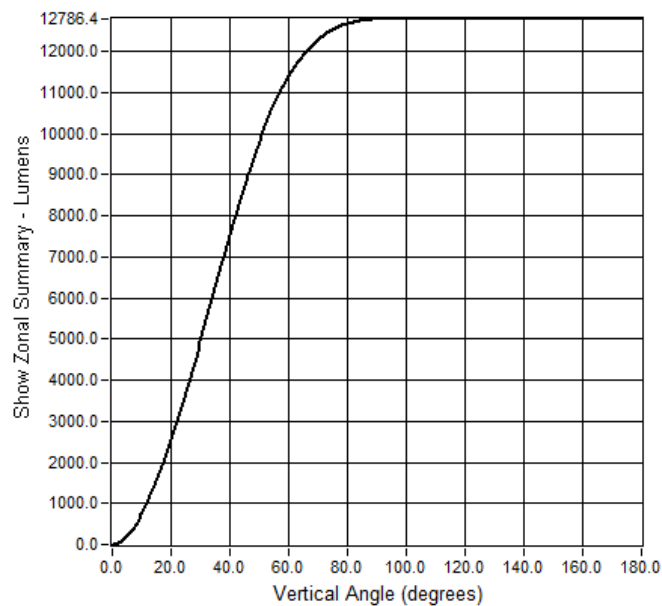
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



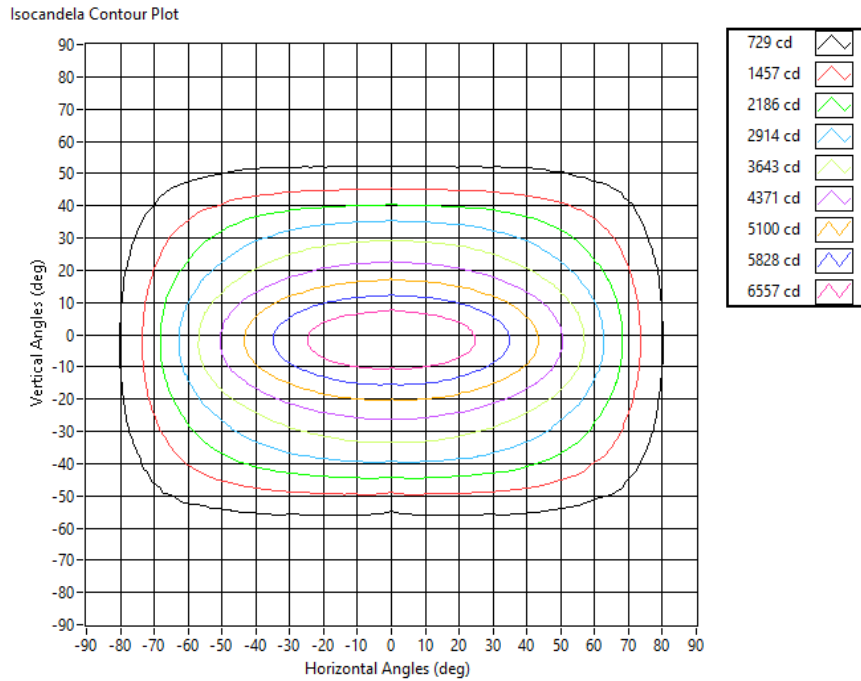
Zonal Flux Graph



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	2.45	6.37	1812.0
4	4.91	12.73	453.0
6	7.36	19.10	201.3
8	9.81	25.47	113.3
10	12.27	31.83	72.5
12	14.72	38.20	50.3
14	17.17	44.57	37.0
16	19.63	50.93	28.3
18	22.08	57.30	22.4
20	24.53	63.66	18.1

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