

# Test Report

Report Number: L20087

Date: Dec 30, 2020

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]NN-[2,8]Ex-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:** December 9, 2020 through December 9, 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: L20087

Manufacturer: Dialight Corporation

Product Name: High Bay

Description: High Bay

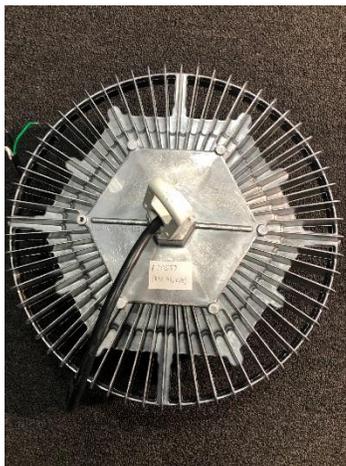
Model Number: H[C,E,F,W][D,U]-[L,Z]NN-[2,8]Ex-xxx-xx

## Report Summary

Sample number L20087

Dialight unit model number H[C,E,F,W][D,U]-[L,Z]NN-[2,8]Ex-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:	26387 (lumens)	25972 (lumens)
Electrical Power:	185.7 (W)	183.9 (W)
Luminous Efficacy:	142.1 (lumens/W)	141.3 (lumens/W)

### Electrical Measurements:

Input Power (120VAC): 185.7 (W)  
 Power Factor (120VAC): 0.995609  
 Current ATHD % (120VAC): 5.05523  
 Input Power (277VAC): 179.1 (W)  
 Power Factor (277VAC): 0.9611  
 Current ATHD % (277VAC): 9.5

### Color Measurements:

Correlated Color Temperature (CCT): 4002  
 Color Rendering Index (CRI): 83.4165  
 Chromaticity Coordinate (x): 0.381  
 Chromaticity Coordinate (y): 0.380  
 Chromaticity Coordinate (u'): 0.224  
 Chromaticity Coordinate (v'): 0.335  
 DUV: 0.0014

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20087.

Dialight unit model number H[C,E,F,W][D,U]-[L,Z]NN-[2,8]Ex-xxx-xx

### Test Conditions:

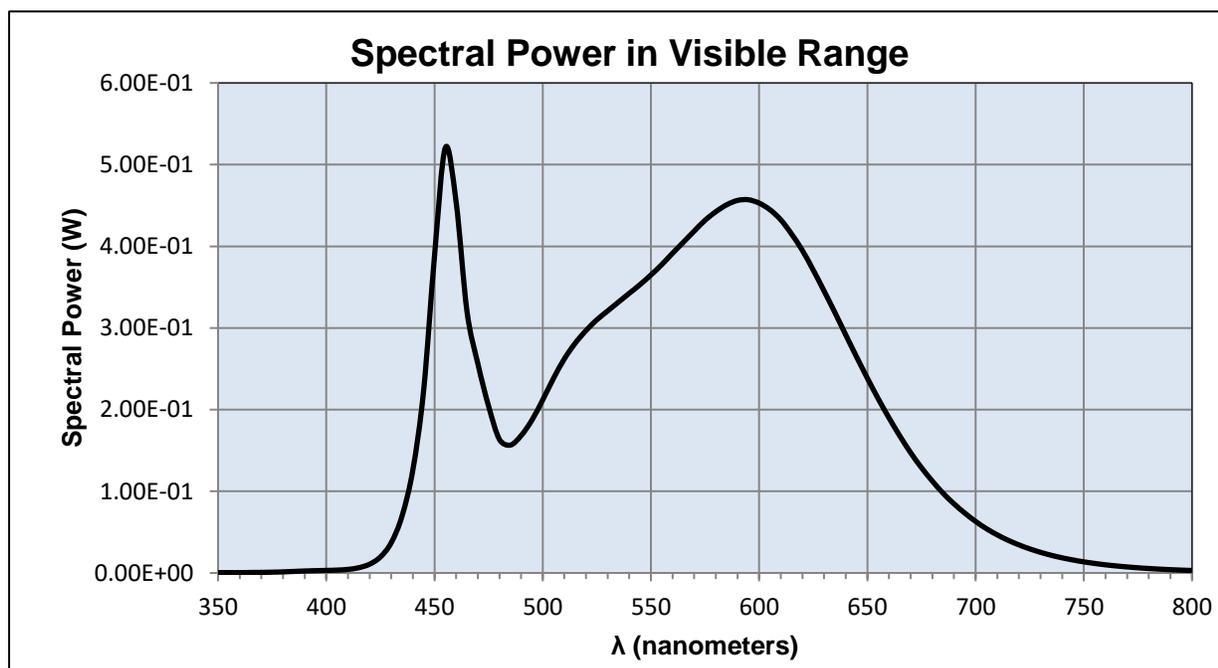
Ambient Temperature: 25 ± 1 (°C)

### Electrical Measurements:

Input Voltage: 120 (VAC)  
Input Current: 1.55854 (A)  
Input Power: 185.7 (W)  
Input Power Factor: 0.995609  
Current ATHD: 5.05523 (%)

### Photometric measurements:

Luminous Flux: 26387.28 (lumens)  
Luminous Efficacy: 142.1 (lumens/W)  
Correlated Color Temperature (CCT): 4002 (K)  
CRI -Ra: 83.4165  
CRI -R9: 10.897  
DUV: 0.0014  
CIE Coordinate (x): 0.381  
CIE Coordinate (y): 0.380  
CIE Coordinate (u'): 0.224  
CIE Coordinate (v'): 0.335  
TM30\_Rf: 81.1  
TM30\_Rg: 92.7  
TM30\_Rcs\_hue1: -11.91 %



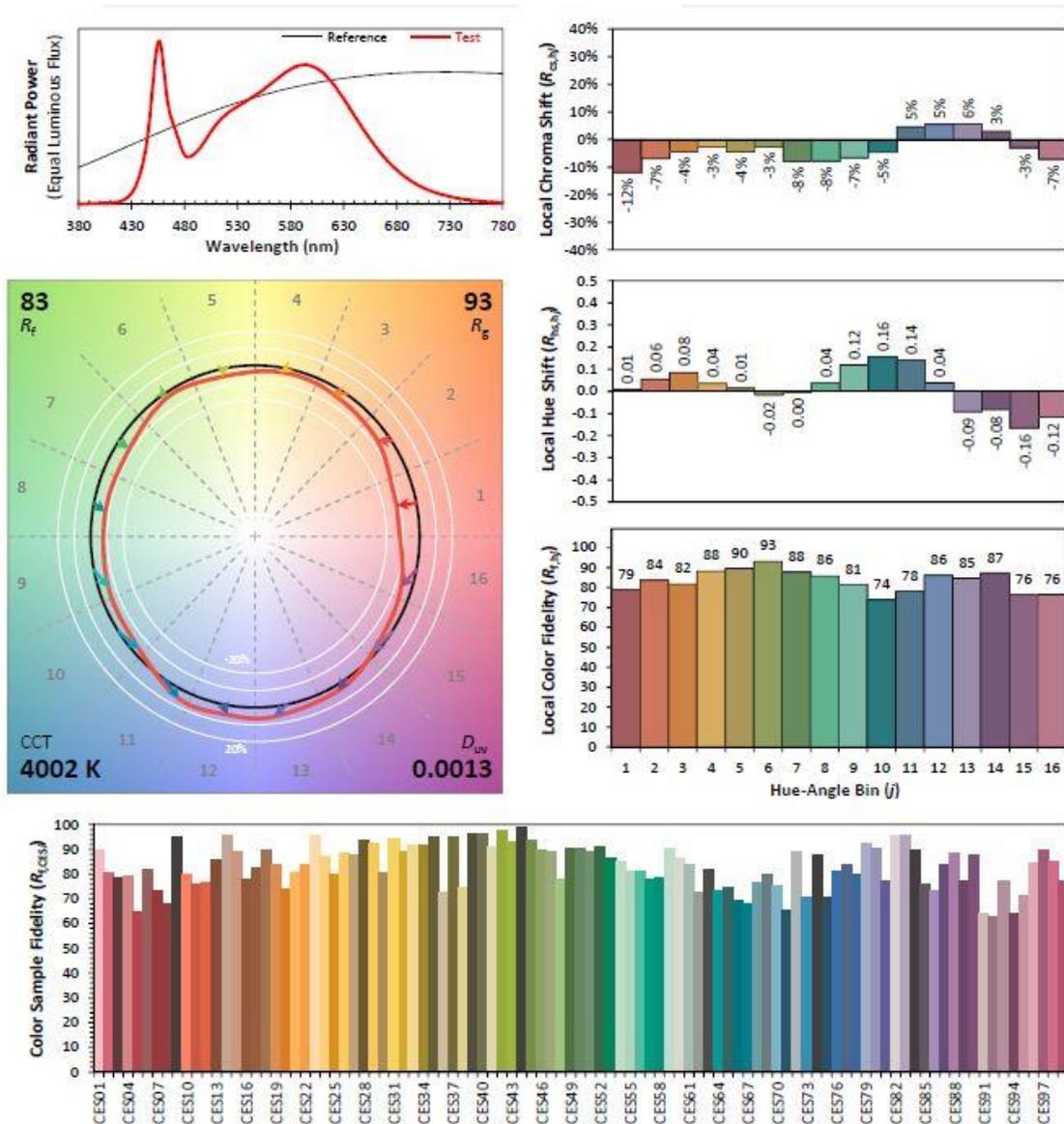
## Test Results: Integrating Sphere

Results continued from previous page.

### Tabulated Spectral Power in Visible Range:

$\lambda$ (nm)	(W/nm)						
350	0.00048	490	0.16813	630	0.34521	770	0.00738
355	0.00040	495	0.18710	635	0.31889	775	0.00635
360	0.00042	500	0.21192	640	0.29149	780	0.00547
365	0.00062	505	0.23842	645	0.26467	785	0.00470
370	0.00074	510	0.26219	650	0.23850	790	0.00404
375	0.00097	515	0.28129	655	0.21338	795	0.00350
380	0.00135	520	0.29680	660	0.18984	800	0.00303
385	0.00188	525	0.30997	665	0.16771		
390	0.00243	530	0.32085	670	0.14724		
395	0.00280	535	0.33170	675	0.12892		
400	0.00313	540	0.34245	680	0.11255		
405	0.00352	545	0.35317	685	0.09757		
410	0.00438	550	0.36491	690	0.08470		
415	0.00643	555	0.37760	695	0.07332		
420	0.01074	560	0.39155	700	0.06313		
425	0.01960	565	0.40508	705	0.05424		
430	0.03704	570	0.41865	710	0.04669		
435	0.06976	575	0.43186	715	0.04006		
440	0.12623	580	0.44237	720	0.03442		
445	0.22414	585	0.45082	725	0.02950		
450	0.38824	590	0.45614	730	0.02529		
455	0.52072	595	0.45698	735	0.02160		
460	0.45361	600	0.45285	740	0.01853		
465	0.32043	605	0.44475	745	0.01588		
470	0.25654	610	0.43242	750	0.01361		
475	0.20412	615	0.41491	755	0.01168		
480	0.16350	620	0.39481	760	0.00999		
485	0.15654	625	0.37085	765	0.00860		

**IES TM-30-18 Color Rendition Report**



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

$x$  0.3813  
 $y$  0.3802  
 $u'$  0.2243  
 $v'$  0.5032

CIE 13.3-1995	
(CRI)	
$R_a$	83
$R_g$	11

## Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L20087.  
Dialight unit model number H[C,E,F,W][D,U]-[L,Z]NN-[2,8]Ex-xxx-xx

### Electrical Measurements:

Input Voltage: 120 (VAC)  
Input current: 1.5413 (A)  
Input Power: 183.9 (W)  
Power Factor: 0.9944

### Photometric measurements:

Absolute Luminous Flux: 25971.5 (lumens)  
Luminous Efficacy: 141.3 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	19925	19916	19919	19918	19925	
5.00	19414	19328	19268	19246	19266	1963
15.00	15400	15428	15308	15206	15190	4338
25.00	10622	10725	10664	10543	10495	4902
35.00	7787	7843	7849	7784	7786	4901
45.00	6063	6061	6074	6072	6097	4706
55.00	3836	3795	3798	3751	3743	3397
65.00	1366	1346	1318	1264	1255	1301
75.00	460	450	440	429	438	471
85.00	270	263	260	262	271	213
90.00	246	241	238	243	252	

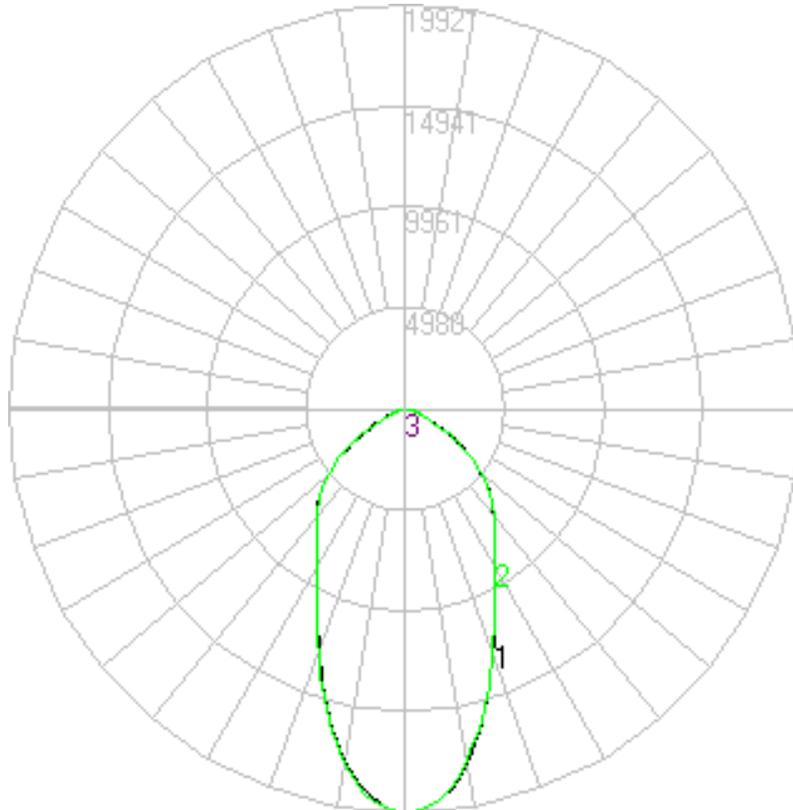
#### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	10930.06	42.08	42.08
0 to 40	15829.58	60.95	60.95
0 to 60	23827.21	91.74	91.74
0 to 90	25971.50	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	25971.50	100.00	100.00

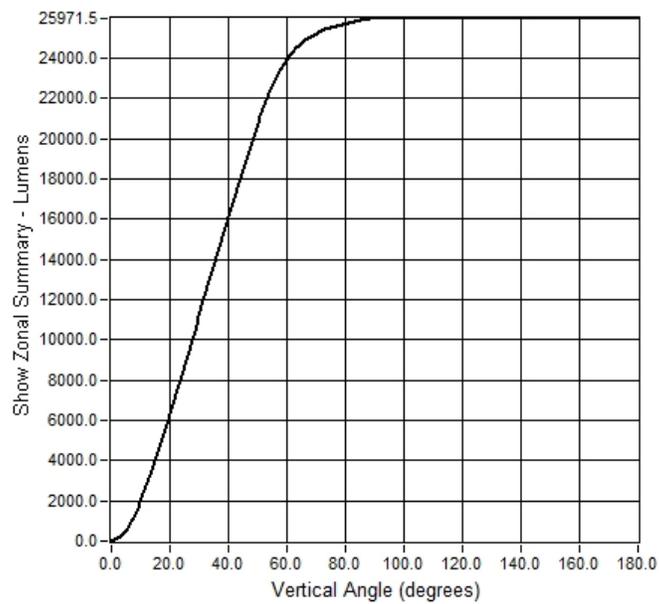
## Test Results: Goniometer

Results continued from previous page.

### Polar Plot:



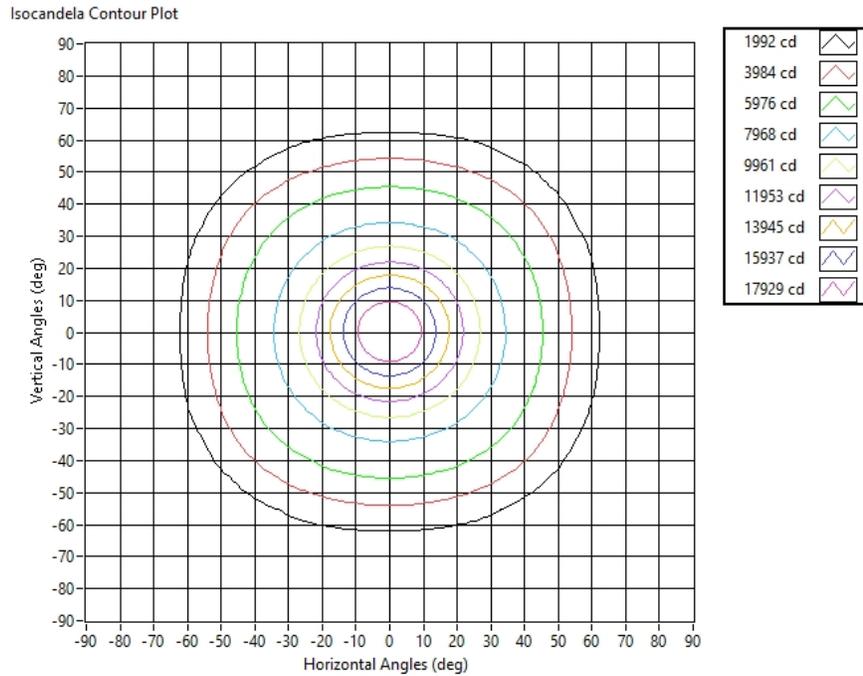
Zonal Flux Graph



## 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	1.98	1.97	4980.3
4	3.97	3.94	1245.1
6	5.95	5.92	553.4
8	7.93	7.89	311.3
10	9.91	9.86	199.2
12	11.90	11.83	138.3
14	13.88	13.80	101.6
16	15.86	15.78	77.8
18	17.84	17.75	61.5
20	19.83	19.72	49.8

**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 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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 Approved Signatory