

# Test Report

Report Number: L20078

Date: Dec 15, 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]-[2,T]WN-[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 1, 2020 through December 2, 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: L20078

Manufacturer: Dialight Corporation

Product Name: High Bay

Description: High Bay

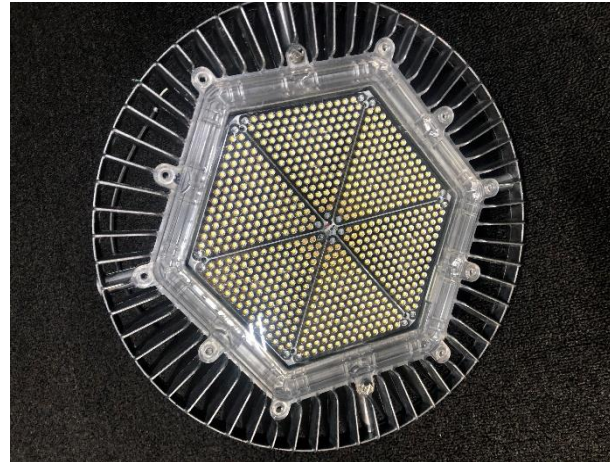
Model Number: H[C,E,F,W][D,U]-[2,T]WN-[2,8]Ex-xxx-xx

## Report Summary

Sample number L20078

Dialight unit model number H[C,E,F,W][D,U]-[2,T]WN-[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:	26860 (lumens)	26446 (lumens)
Electrical Power:	186.0 (W)	183.9 (W)
Luminous Efficacy:	144.4 (lumens/W)	143.8 (lumens/W)

### Electrical Measurements:

Input Power (120VAC): 186.0 (W)  
 Power Factor (120VAC): 0.995573  
 Current ATHD % (120VAC): 4.97875  
 Input Power (277VAC): 179.5 (W)  
 Power Factor (277VAC): 0.9564  
 Current ATHD % (277VAC): 9.48

### Color Measurements:

Correlated Color Temperature (CCT): 4014  
 Color Rendering Index (CRI): 83.2449  
 Chromaticity Coordinate (x): 0.381  
 Chromaticity Coordinate (y): 0.381  
 Chromaticity Coordinate (u'): 0.224  
 Chromaticity Coordinate (v'): 0.336  
 DUV: 0.0017

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20078.

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

### Test Conditions:

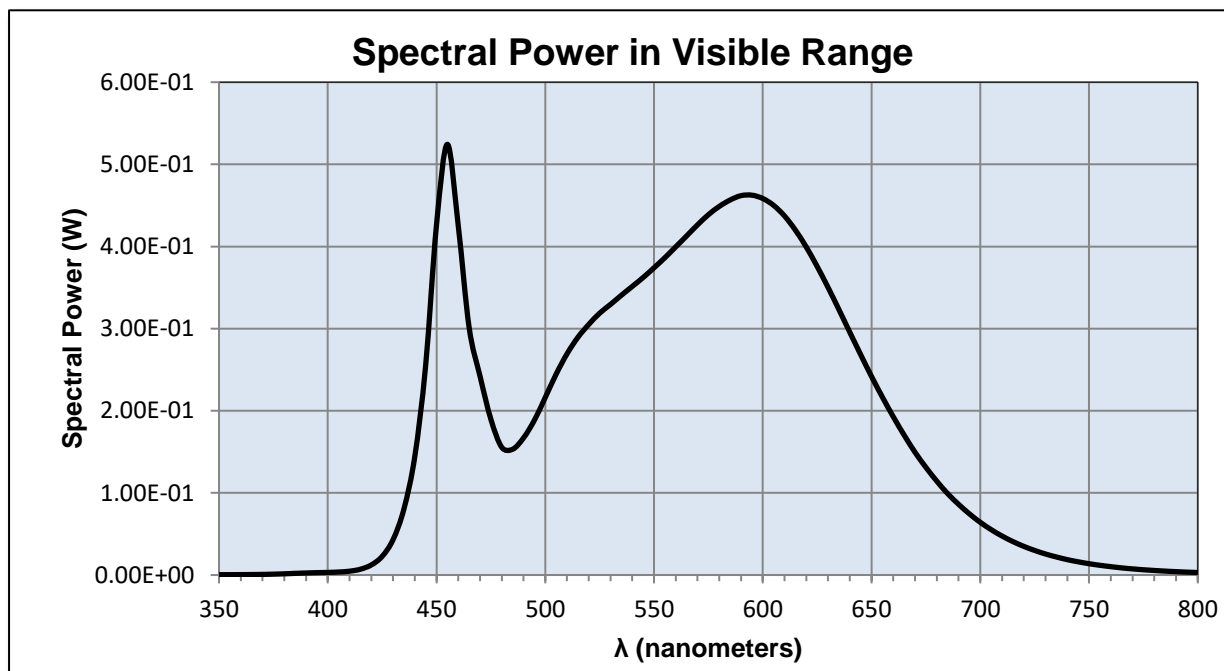
Ambient Temperature: 25 ± 1 (°C)

### Electrical Measurements:

Input Voltage: 120.069 (VAC)  
Input Current: 1.55601 (A)  
Input Power: 186.0 (W)  
Input Power Factor: 0.995573  
Current ATHD: 4.97875 (%)

### Photometric measurements:

Luminous Flux: 26859.92 (lumens)  
Luminous Efficacy: 144.4 (lumens/W)  
Correlated Color Temperature (CCT): 4014 (K)  
CRI -Ra: 83.2449  
CRI -R9: 10.171  
DUV: 0.0017  
CIE Coordinate (x): 0.381  
CIE Coordinate (y): 0.381  
CIE Coordinate (u'): 0.224  
CIE Coordinate (v'): 0.336  
TM30\_Rf: 81.4  
TM30\_Rg: 93.3  
TM30\_Rcs\_hue1: -11.89 %



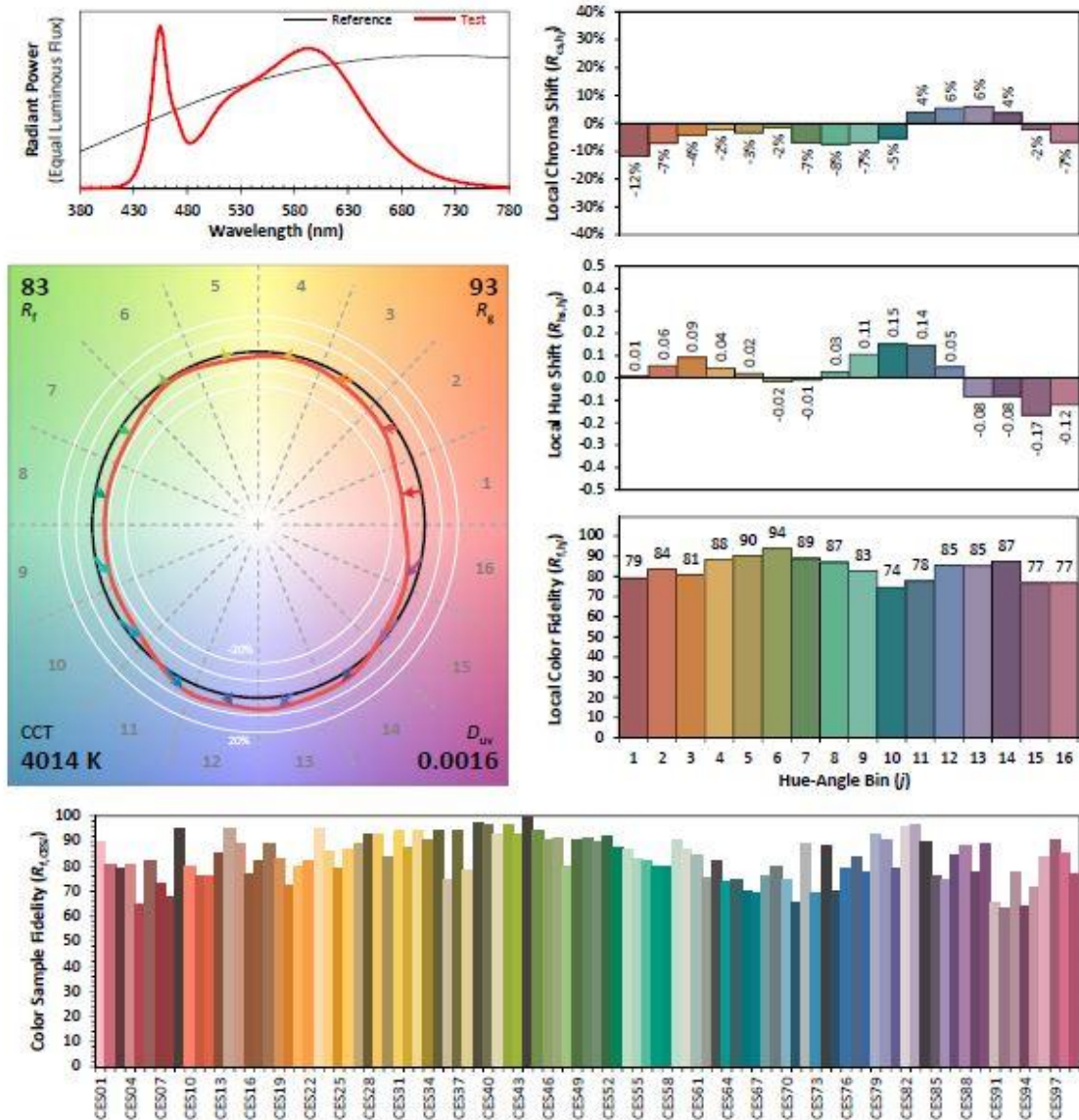
## Test Results: Integrating Sphere

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	0.00043	490	0.16690	630	0.35022	770	0.00748
355	0.00043	495	0.18848	635	0.32324	775	0.00643
360	0.00050	500	0.21619	640	0.29561	780	0.00555
365	0.00061	505	0.24460	645	0.26840	785	0.00475
370	0.00078	510	0.26932	650	0.24179	790	0.00410
375	0.00106	515	0.28941	655	0.21661	795	0.00354
380	0.00147	520	0.30511	660	0.19269	800	0.00305
385	0.00202	525	0.31879	665	0.17030		
390	0.00248	530	0.32948	670	0.14947		
395	0.00289	535	0.34067	675	0.13111		
400	0.00317	540	0.35136	680	0.11432		
405	0.00367	545	0.36220	685	0.09914		
410	0.00468	550	0.37407	690	0.08615		
415	0.00706	555	0.38636	695	0.07450		
420	0.01226	560	0.39958	700	0.06418		
425	0.02269	565	0.41288	705	0.05528		
430	0.04304	570	0.42632	710	0.04749		
435	0.08034	575	0.43868	715	0.04074		
440	0.14407	580	0.44879	720	0.03489		
445	0.25512	585	0.45661	725	0.02994		
450	0.42669	590	0.46189	730	0.02561		
455	0.52438	595	0.46246	735	0.02196		
460	0.42481	600	0.45842	740	0.01874		
465	0.30123	605	0.45003	745	0.01610		
470	0.24217	610	0.43712	750	0.01379		
475	0.18953	615	0.41991	755	0.01184		
480	0.15546	620	0.39936	760	0.01018		
485	0.15312	625	0.37572	765	0.00869		

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



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

x 0.3810  
y 0.3806  
u' 0.2239  
v' 0.5034

CIE 13.3-1995 (CRI)	
$R_a$	83
$R_g$	10



## Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L20078.  
Dialight unit model number H[C,E,F,W][D,U]-[2,T]WN-[2,8]Ex-xxx-xx

### Electrical Measurements:

Input Voltage: 120.430 (VAC)  
Input current: 1.53580 (A)  
Input Power: 183.9 (W)  
Power Factor: 0.994400

### Photometric measurements:

Absolute Luminous Flux: 26446.2 (lumens)  
Luminous Efficacy: 143.8 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	9970	9964	9961	9974	9970	
5.00	10010	9956	9942	9968	9977	1012
15.00	9630	9566	9536	9613	9618	2723
25.00	9209	9051	9068	9107	9221	4241
35.00	9380	8877	8896	9096	9421	5801
45.00	9256	8428	8346	8729	9256	6949
55.00	5587	5047	4864	5130	4956	4643
65.00	780	678	647	691	589	675
75.00	79	78	77	77	67	79
85.00	14	14	14	16	13	8
90.00	2	2	2	2	1	

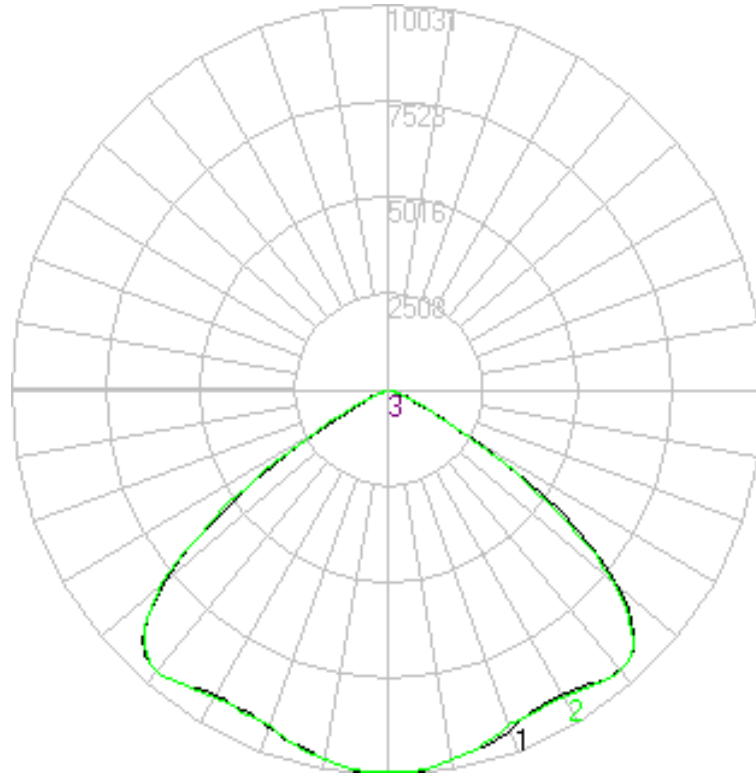
#### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	7954.34	30.08	30.08
0 to 40	13883.78	52.50	52.50
0 to 60	25486.42	96.37	96.37
0 to 90	26446.21	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	26446.21	100.00	100.00

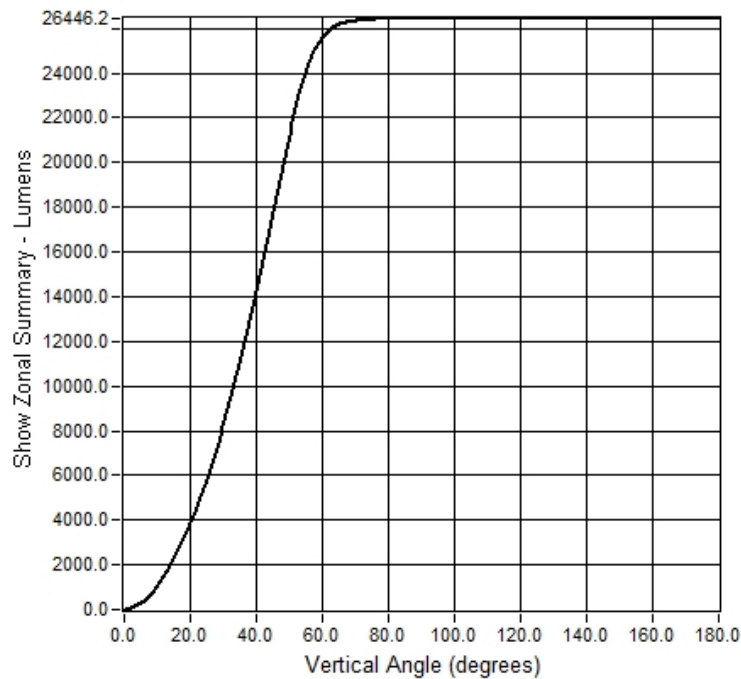
## Test Results: Goniometer

Results continued from previous page.

**Polar Plot:**



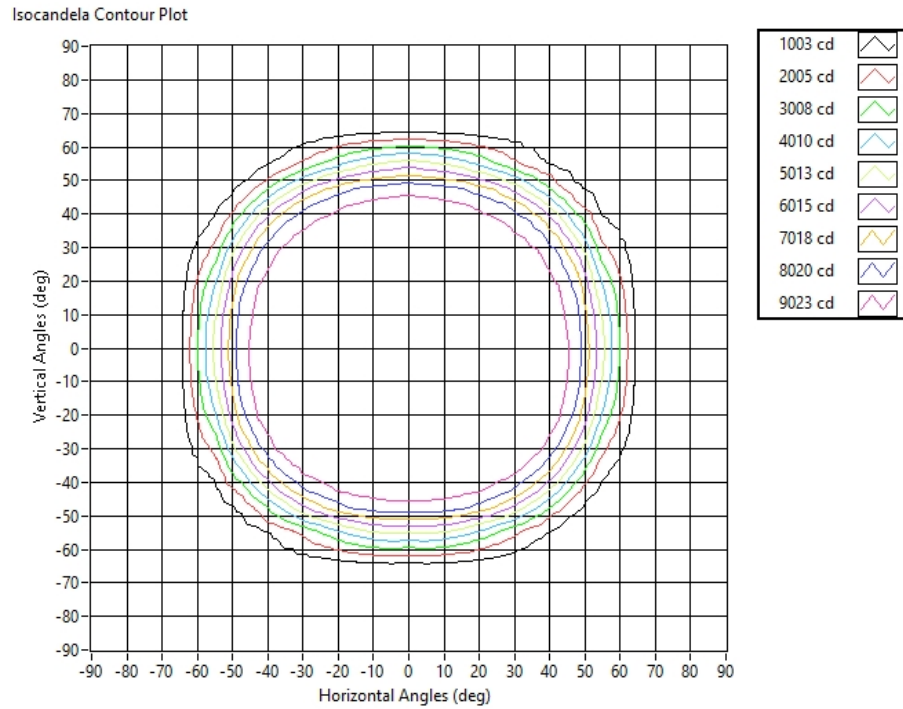
Zonal Flux Graph



## 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	5.61	5.84	2492.9
4	11.23	11.68	623.2
6	16.84	17.52	277.0
8	22.46	23.36	155.8
10	28.07	29.20	99.7
12	33.68	35.04	69.2
14	39.30	40.88	50.9
16	44.91	46.72	39.0
18	50.52	52.56	30.8
20	56.14	58.40	24.9



**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