

# Test Report

Report Number: L20086

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]-[7,R]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 8, 2020 through December 8, 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: L20086

Manufacturer: Dialight Corporation

Product Name: High Bay

Description: High Bay

Model Number: H[C,E,F,W][D,U]-[7,R]WN-[2,8]Ex-xxx-xx

## Report Summary

Sample number L20086

Dialight unit model number H[C,E,F,W][D,U]-[7,R]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:	26762 (lumens)	26489 (lumens)
Electrical Power:	186.0 (W)	184.0 (W)
Luminous Efficacy:	143.9 (lumens/W)	144 (lumens/W)

### Electrical Measurements:

Input Power (120VAC): 186.0 (W)  
 Power Factor (120VAC): 0.995567  
 Current ATHD % (120VAC): 4.98274  
 Input Power (277VAC): 178.9 (W)  
 Power Factor (277VAC): 0.9607  
 Current ATHD % (277VAC): 9.54

### Color Measurements:

Correlated Color Temperature (CCT): 4025  
 Color Rendering Index (CRI): 83.0681  
 Chromaticity Coordinate (x): 0.381  
 Chromaticity Coordinate (y): 0.381  
 Chromaticity Coordinate (u'): 0.224  
 Chromaticity Coordinate (v'): 0.336  
 DUV: 0.0019

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20086.

Dialight unit model number H[C,E,F,W][D,U]-[7,R]WN-[2,8]Ex-xxx-xx

### Test Conditions:

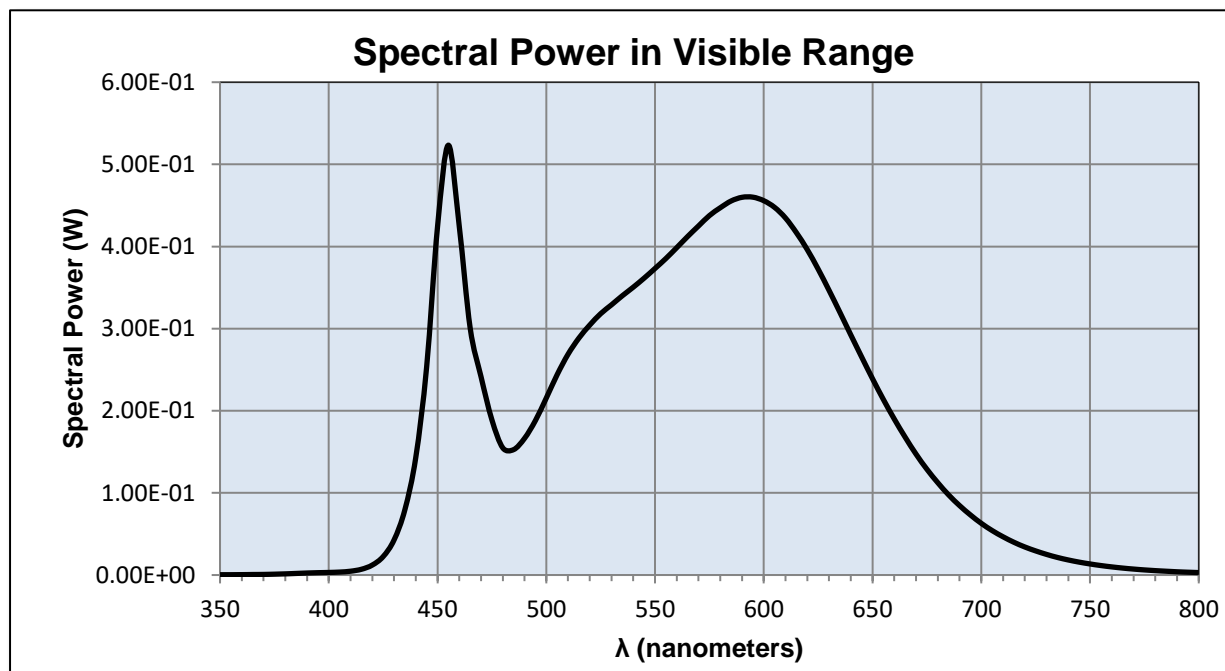
Ambient Temperature: 25 ± 1 (°C)

### Electrical Measurements:

Input Voltage: 120 (VAC)  
 Input Current: 1.55605 (A)  
 Input Power: 186.0 (W)  
 Input Power Factor: 0.995567  
 Current ATHD: 4.98274 (%)

### Photometric measurements:

Luminous Flux: 26761.71 (lumens)  
 Luminous Efficacy: 143.9 (lumens/W)  
 Correlated Color Temperature (CCT): 4025 (K)  
 CRI -Ra: 83.0681  
 CRI -R9: 9.2057  
 DUV: 0.0019  
 CIE Coordinate (x): 0.381  
 CIE Coordinate (y): 0.381  
 CIE Coordinate (u'): 0.224  
 CIE Coordinate (v'): 0.336  
 TM30\_Rf: 81.3  
 TM30\_Rg: 93.2  
 TM30\_Rcs\_hue1: -12.00 %



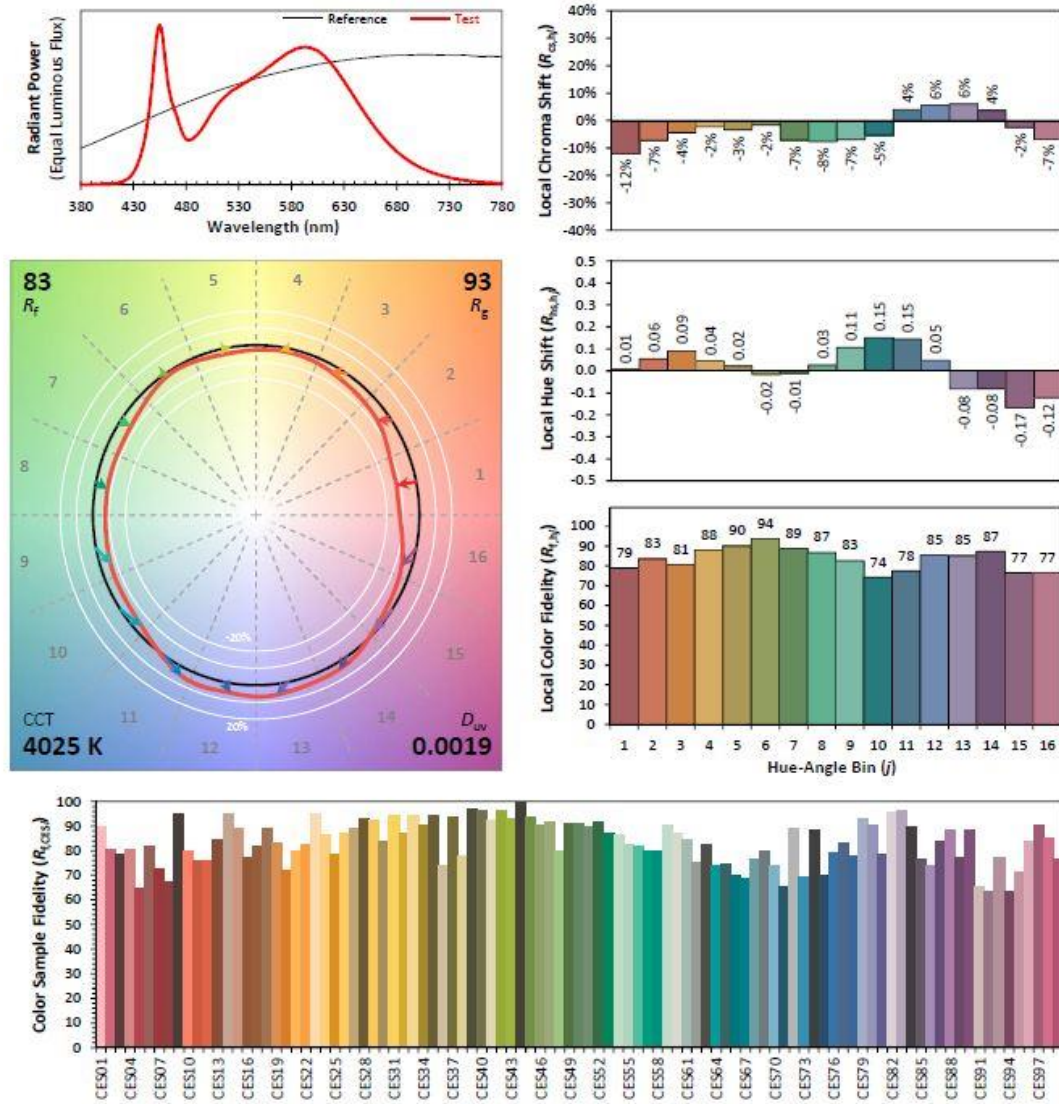
## Test Results: Integrating Sphere

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	0.00038	490	0.16635	630	0.34668	770	0.00725
355	0.00039	495	0.18801	635	0.31982	775	0.00624
360	0.00049	500	0.21543	640	0.29238	780	0.00536
365	0.00063	505	0.24394	645	0.26549	785	0.00463
370	0.00075	510	0.26876	650	0.23899	790	0.00396
375	0.00103	515	0.28844	655	0.21370	795	0.00344
380	0.00142	520	0.30435	660	0.18992	800	0.00297
385	0.00192	525	0.31815	665	0.16783		
390	0.00245	530	0.32900	670	0.14725		
395	0.00283	535	0.34011	675	0.12880		
400	0.00315	540	0.35043	680	0.11242		
405	0.00360	545	0.36146	685	0.09753		
410	0.00464	550	0.37325	690	0.08458		
415	0.00700	555	0.38538	695	0.07316		
420	0.01212	560	0.39862	700	0.06295		
425	0.02246	565	0.41218	705	0.05414		
430	0.04264	570	0.42498	710	0.04657		
435	0.07965	575	0.43760	715	0.03990		
440	0.14306	580	0.44714	720	0.03418		
445	0.25343	585	0.45542	725	0.02937		
450	0.42401	590	0.45987	730	0.02512		
455	0.52338	595	0.46003	735	0.02143		
460	0.42418	600	0.45574	740	0.01834		
465	0.30093	605	0.44754	745	0.01571		
470	0.24147	610	0.43461	750	0.01348		
475	0.18891	615	0.41679	755	0.01154		
480	0.15482	620	0.39621	760	0.00990		
485	0.15272	625	0.37248	765	0.00845		

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



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

$x$  0.3806  
 $y$  0.3808  
 $u'$  0.2236  
 $v'$  0.5034

CIE 13.3-1995  
(CRI)  
 $R_a$  83  
 $R_g$  9

## Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L20086.  
Dialight unit model number H[C,E,F,W][D,U]-[7,R]WN-[2,8]Ex-xxx-xx

### Electrical Measurements:

Input Voltage: 120 (VAC)  
Input current: 1.5423 (A)  
Input Power: 184.0 (W)  
Power Factor: 0.9944

### Photometric measurements:

Absolute Luminous Flux: 26489.3 (lumens)  
Luminous Efficacy: 144.0 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	9675	9666	9667	9668	9675	
5.00	9648	9656	9656	9644	9609	978
15.00	9511	9571	9569	9550	9522	2703
25.00	9181	9477	9601	9416	9241	4313
35.00	9137	9817	10016	9528	9255	5916
45.00	9352	10206	10347	9802	9114	7407
55.00	5554	6068	6314	6080	5086	5053
65.00	659	735	828	805	562	673
75.00	60	66	74	73	57	67
85.00	7	8	9	8	5	4
90.00	1	1	1	1	1	

#### Zonal Lumen Summary

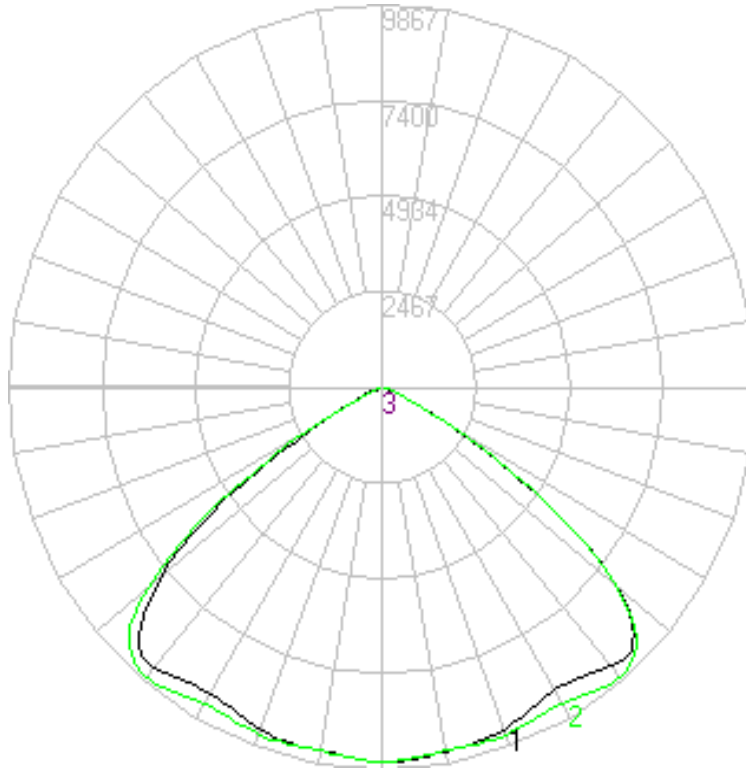
Zone	Lumens	% Lamp	% Fixture
0 to 30	7932.12	29.94	29.94
0 to 40	13828.65	52.20	52.20
0 to 60	25579.92	96.57	96.57
0 to 90	26489.28	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	26489.28	100.00	100.00



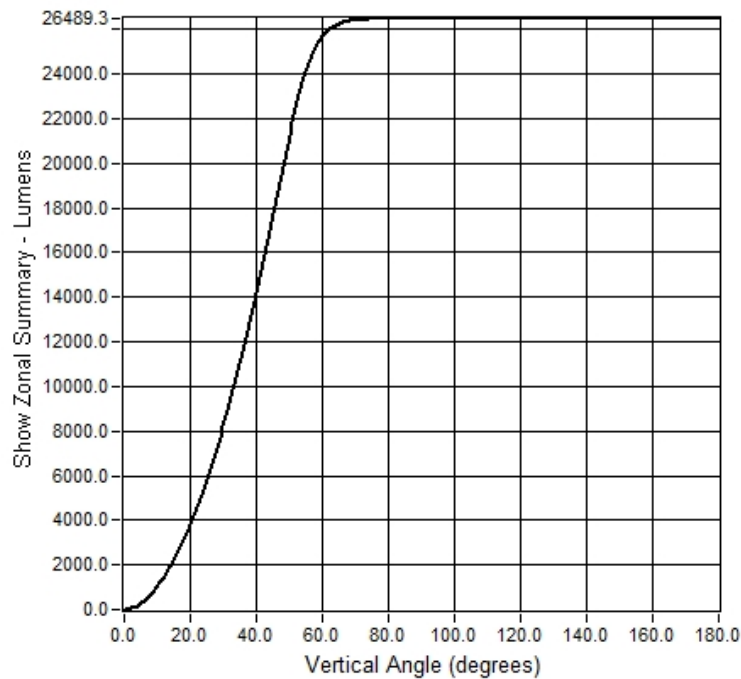
## Test Results: Goniometer

Results continued from previous page.

**Polar Plot:**



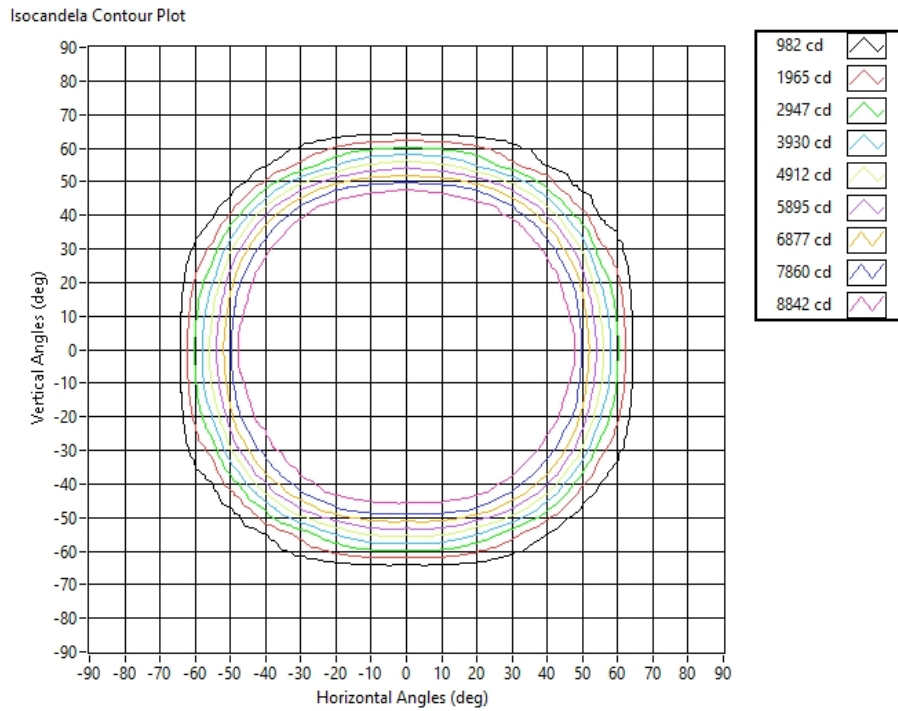
Zonal Flux Graph



## 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	5.99	5.73	2417.4
4	11.97	11.47	604.4
6	17.96	17.20	268.6
8	23.95	22.93	151.1
10	29.93	28.66	96.7
12	35.92	34.40	67.2
14	41.91	40.13	49.3
16	47.89	45.86	37.8
18	53.88	51.60	29.8
20	59.86	57.33	24.2



**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