

Test Report

Report Number: L20082

Date: Dec 29, 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]-[4,V]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 3, 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:

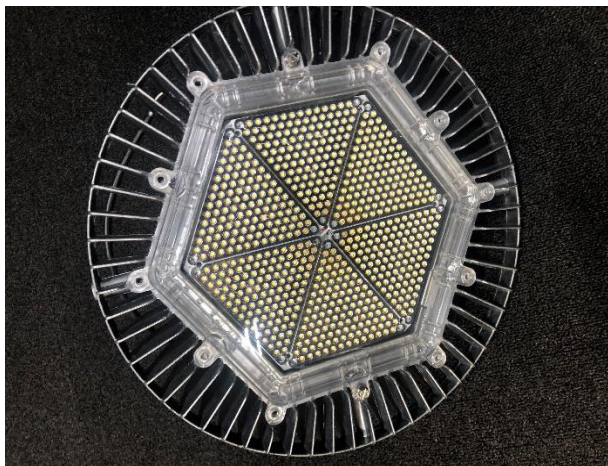
Sample Number: L20082
Manufacturer: Dialight Corporation
Product Name: High Bay
Description: High Bay
Model Number: H[C,E,F,W][D,U]-[4,V]WN-[2,8]Ex-xxx-xx

Report Summary

Sample number L20082

Dialight unit model number H[C,E,F,W][D,U]-[4,V]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:	26527 (lumens)	26216 (lumens)
Electrical Power:	185.9 (W)	183.9 (W)
Luminous Efficacy:	142.7 (lumens/W)	142.5 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 185.9 (W)
 Power Factor (120VAC): 0.995538
 Current ATHD % (120VAC): 5.00261
 Input Power (277VAC): 179.4 (W)
 Power Factor (277VAC): 0.9562
 Current ATHD % (277VAC): 9.502

Color Measurements:

Correlated Color Temperature (CCT): 3992
 Color Rendering Index (CRI): 83.0902
 Chromaticity Coordinate (x): 0.382
 Chromaticity Coordinate (y): 0.382
 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 L20082.

Dialight unit model number H[C,E,F,W][D,U]-[4,V]WN-[2,8]Ex-xxx-xx

Test Conditions:

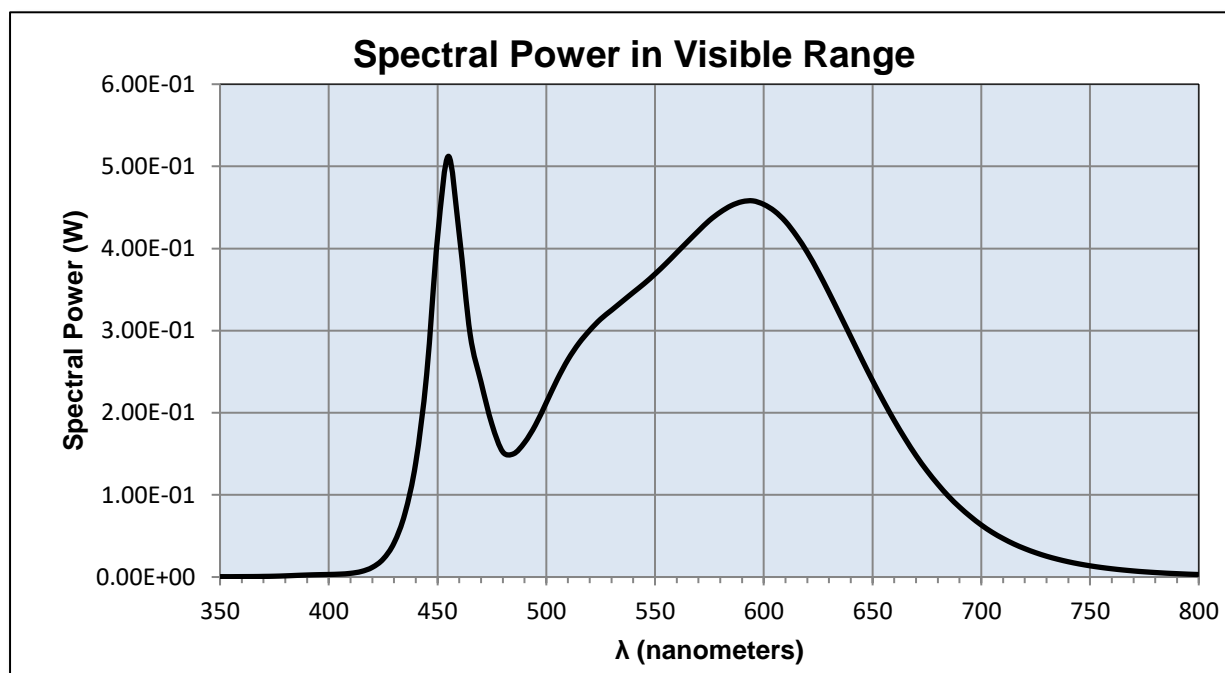
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 119.839 (VAC)
 Input Current: 1.55795 (A)
 Input Power: 185.9 (W)
 Input Power Factor: 0.995538
 Current ATHD: 5.00261 (%)

Photometric measurements:

Luminous Flux: 26526.74 (lumens)
 Luminous Efficacy: 142.7 (lumens/W)
 Correlated Color Temperature (CCT): 3992 (K)
 CRI -Ra: 83.0902
 CRI -R9: 9.4305
 DUV: 0.0019
 CIE Coordinate (x): 0.382
 CIE Coordinate (y): 0.382
 CIE Coordinate (u'): 0.224
 CIE Coordinate (v'): 0.336
 TM30_Rf: 81.3
 TM30_Rg: 93.2
 TM30_Rcs_hue1: -11.98 %



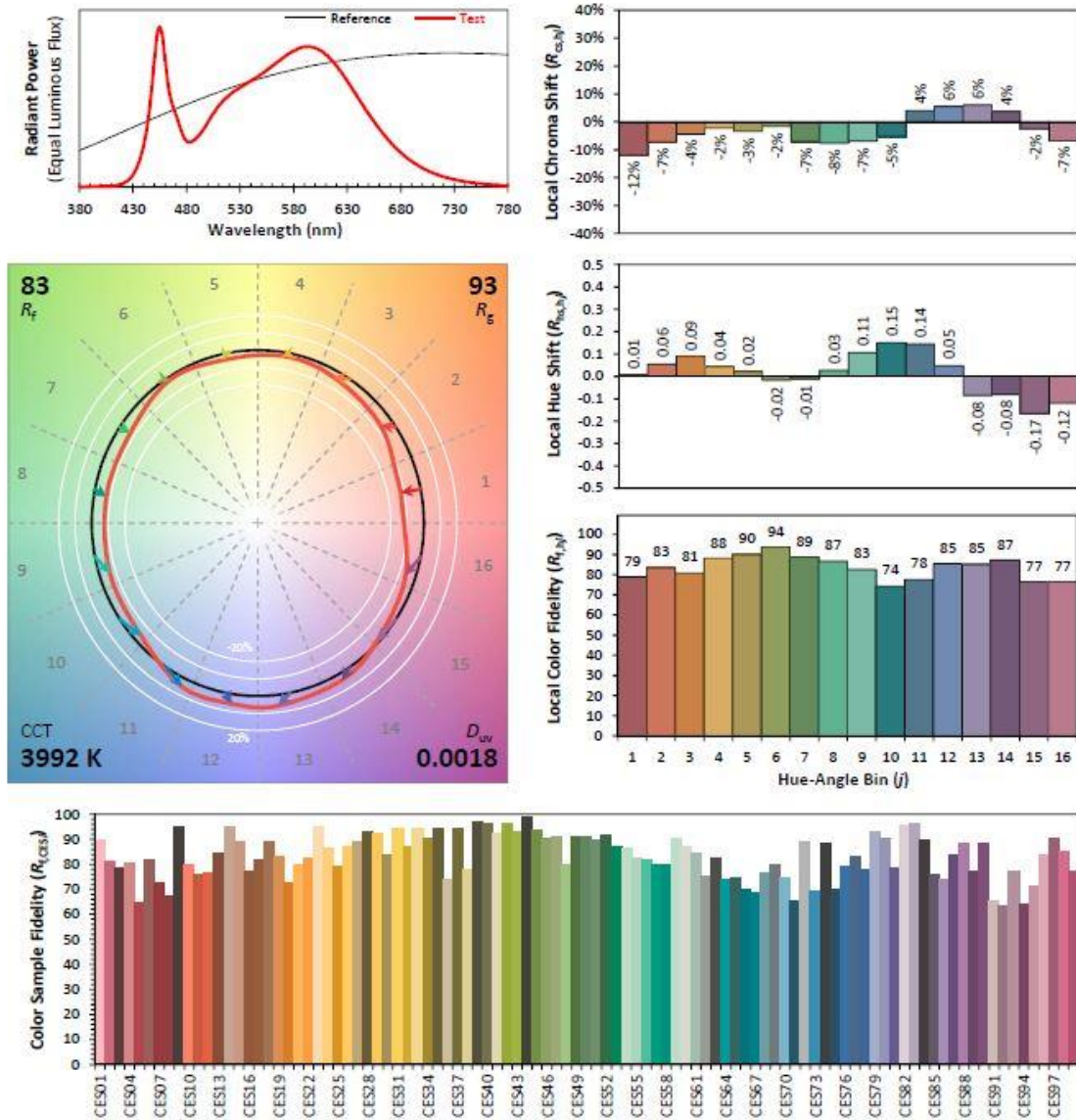
Test Results: Integrating Sphere

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	0.16363	630	0.34613	770	0.00739
355	0.00043	495	0.18491	635	0.31947	775	0.00634
360	0.00051	500	0.21229	640	0.29251	780	0.00548
365	0.00057	505	0.24028	645	0.26550	785	0.00471
370	0.00076	510	0.26485	650	0.23923	790	0.00407
375	0.00098	515	0.28458	655	0.21422	795	0.00351
380	0.00141	520	0.30041	660	0.19045	800	0.00303
385	0.00197	525	0.31404	665	0.16836		
390	0.00247	530	0.32484	670	0.14786		
395	0.00285	535	0.33573	675	0.12954		
400	0.00311	540	0.34654	680	0.11307		
405	0.00353	545	0.35720	685	0.09812		
410	0.00449	550	0.36893	690	0.08515		
415	0.00678	555	0.38156	695	0.07369		
420	0.01176	560	0.39497	700	0.06340		
425	0.02182	565	0.40836	705	0.05447		
430	0.04147	570	0.42149	710	0.04690		
435	0.07734	575	0.43412	715	0.04023		
440	0.13933	580	0.44420	720	0.03455		
445	0.24641	585	0.45214	725	0.02964		
450	0.41321	590	0.45696	730	0.02536		
455	0.51223	595	0.45797	735	0.02175		
460	0.41655	600	0.45363	740	0.01860		
465	0.29545	605	0.44542	745	0.01594		
470	0.23733	610	0.43280	750	0.01366		
475	0.18600	615	0.41555	755	0.01172		
480	0.15232	620	0.39537	760	0.01004		
485	0.15008	625	0.37184	765	0.00863		

IES TM-30-18 Color Rendition Report



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

x 0.3821
y 0.3817
 u' 0.2242
 v' 0.5040

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 L20082.
Dialight unit model number H[C,E,F,W][D,U]-[4,V]WN-[2,8]Ex-xxx-xx

Electrical Measurements:

Input Voltage: 120.42 (VAC)
Input current: 1.5357 (A)
Input Power: 183.9 (W)
Power Factor: 0.9944

Photometric measurements:

Absolute Luminous Flux: 26216.1 (lumens)
Luminous Efficacy: 142.5 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	9873	9867	9869	9877	9873	
5.00	9927	9893	9891	9898	9928	1005
15.00	9526	9495	9450	9531	9543	2698
25.00	9112	8978	8990	9041	9141	4203
35.00	9290	8790	8821	9024	9320	5745
45.00	9069	8295	8268	8598	9191	6855
55.00	5308	4778	4715	4926	5100	4535
65.00	735	645	634	662	672	677
75.00	90	90	92	91	89	95
85.00	14	15	17	20	18	9
90.00	1	1	1	2	1	

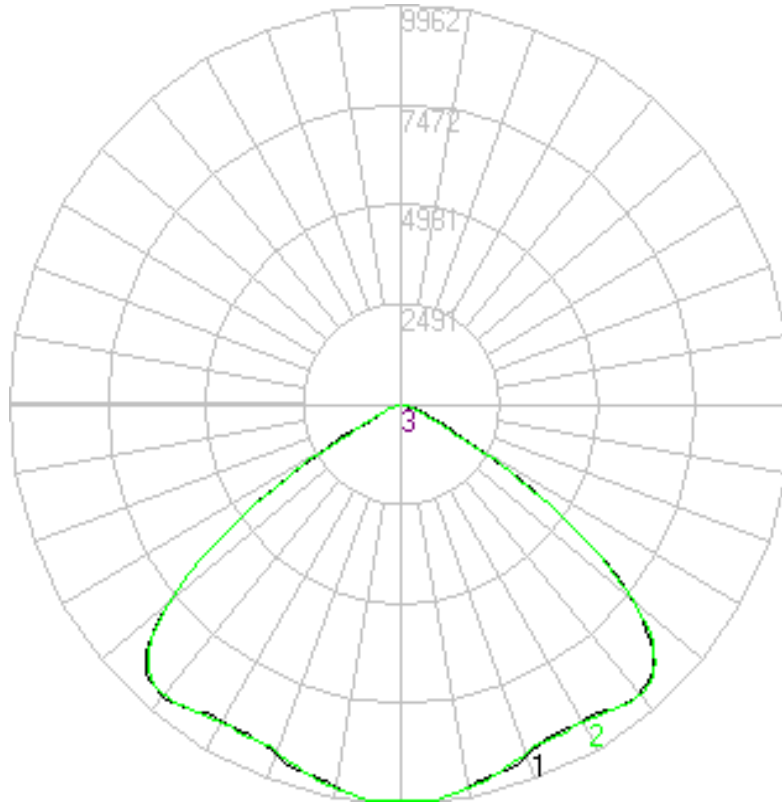
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	7893.56	30.11	30.11
0 to 40	13761.77	52.49	52.49
0 to 60	25222.39	96.21	96.21
0 to 90	26216.11	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	26216.11	100.00	100.00

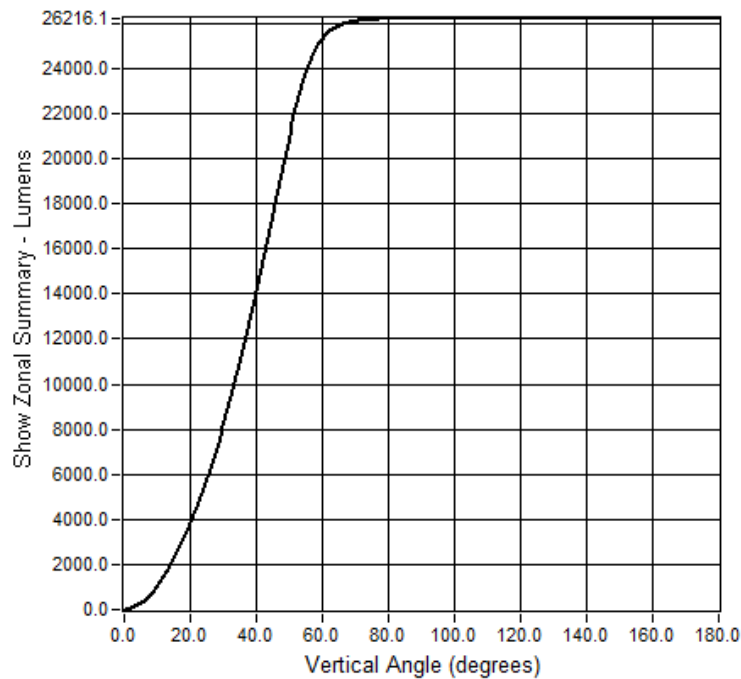
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



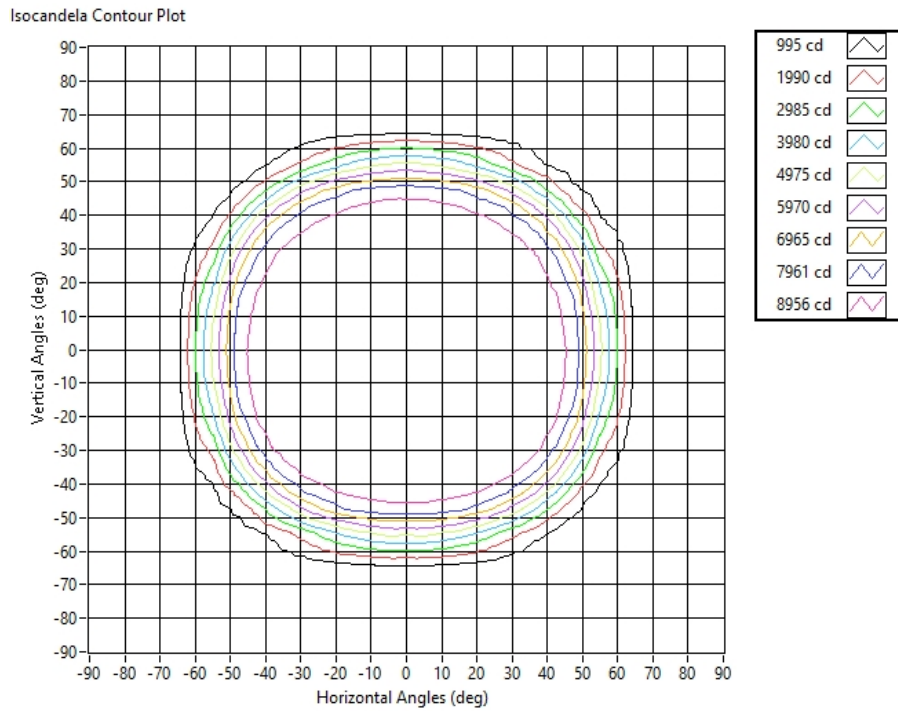
Zonal Flux Graph



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	5.83	5.84	2468.5
4	11.66	11.68	617.1
6	17.49	17.52	274.3
8	23.32	23.36	154.3
10	29.16	29.19	98.7
12	34.99	35.03	68.6
14	40.82	40.87	50.4
16	46.65	46.71	38.6
18	52.48	52.55	30.5
20	58.31	58.39	24.7

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.

Test Report Issued By:

Richard Huegi
 Dialight Optics Laboratory
 Senior Optical Engineering Technician
 Lighting Division

Test Report Reviewed and Approved By:

Vishnu Shastry
 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory