

Test Report

Report Number: L20081

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]MN-[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: November 24, 2020 through December 1, 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: L20081

Manufacturer: Dialight Corporation

Product Name: High Bay

Description: High Bay

Model Number: H[C,E,F,W][D,U]-[4,V]MN-[2,8]Ex-xxx-xx

Report Summary

Sample number L20081

Dialight unit model number H[C,E,F,W][D,U]-[4,V]MN-[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:	26614 (lumens)	26432 (lumens)
Electrical Power:	185.5 (W)	184.1 (W)
Luminous Efficacy:	143.4 (lumens/W)	143.6 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 185.5 (W)
 Power Factor (120VAC): 0.9956
 Current ATHD % (120VAC): 5.08264
 Input Power (277VAC): 179.0 (W)
 Power Factor (277VAC): 0.957
 Current ATHD % (277VAC): 9.388

Color Measurements:

Correlated Color Temperature (CCT): 3985
 Color Rendering Index (CRI): 83.0746
 Chromaticity Coordinate (x): 0.382
 Chromaticity Coordinate (y): 0.382
 Chromaticity Coordinate (u'): 0.224
 Chromaticity Coordinate (v'): 0.336

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20081.

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

Test Conditions:

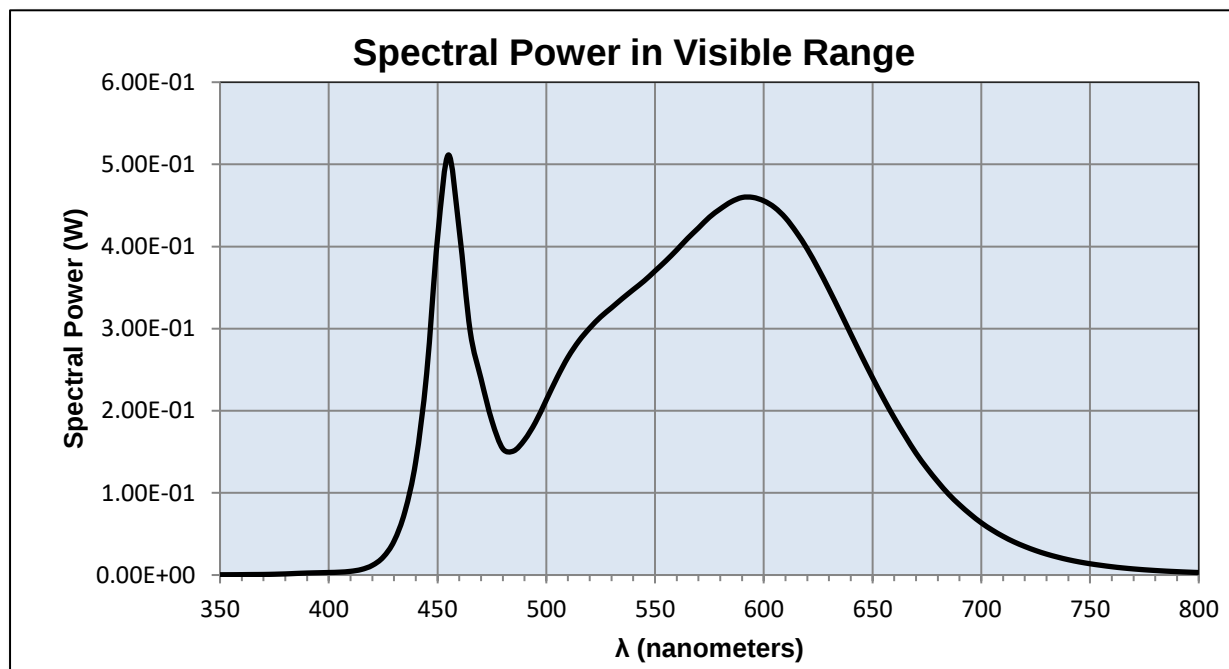
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 1.55105 (A)
Input Power: 185.5 (W)
Input Power Factor: 0.9956
Current ATHD: 5.08264 (%)

Photometric measurements:

Luminous Flux: 26613.81 (lumens)
Luminous Efficacy: 143.4 (lumens/W)
Correlated Color Temperature (CCT): 3985 (K)
CRI -Ra: 83.0746
CRI -R9: 9.2913
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: 93.1
TM30_Rcs_hue1: -12.00 %



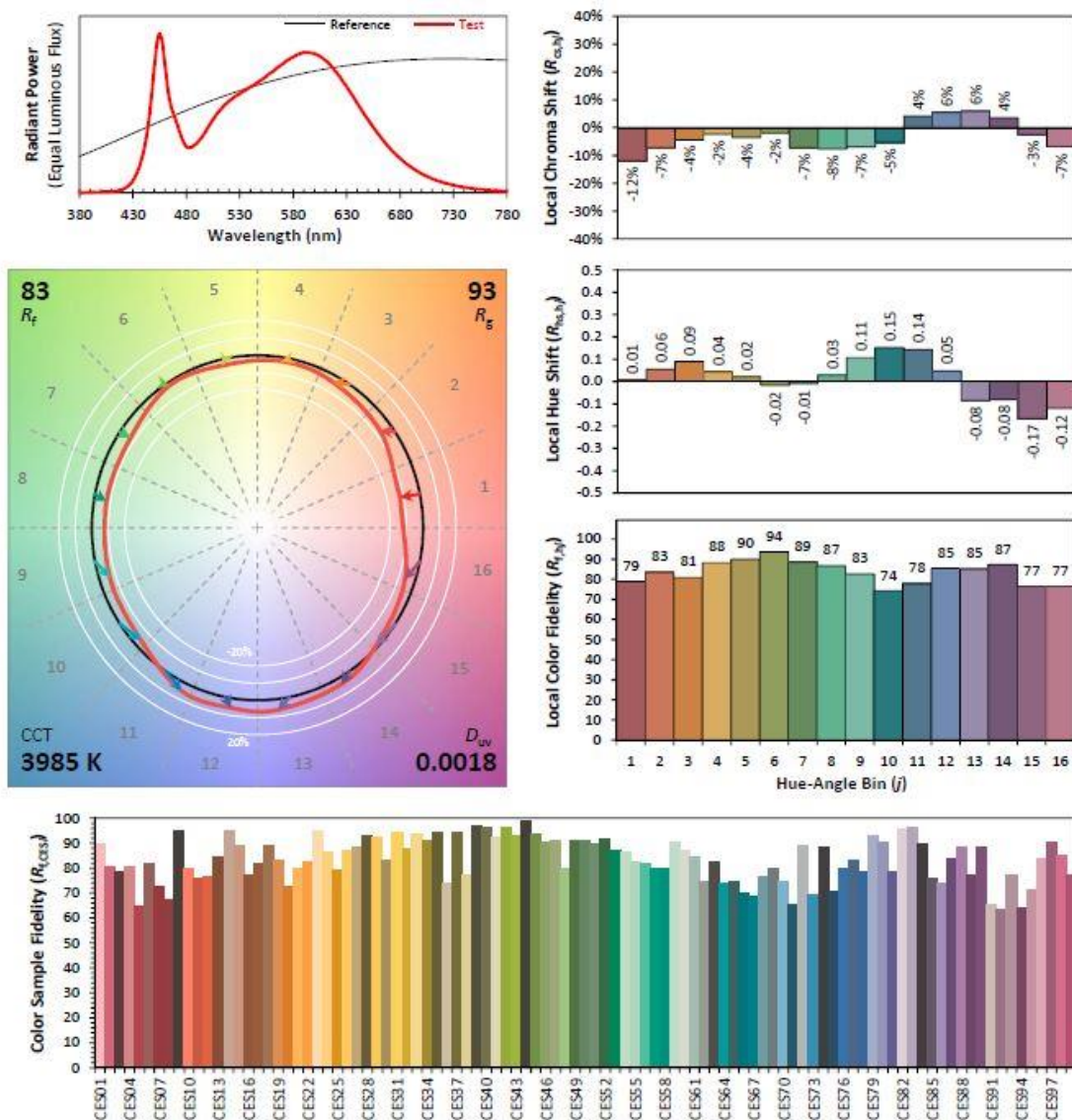
Test Results: Integrating Sphere

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	0.00036	490	0.16454	630	0.34766	770	0.00743
355	0.00037	495	0.18575	635	0.32088	775	0.00640
360	0.00049	500	0.21305	640	0.29352	780	0.00552
365	0.00060	505	0.24060	645	0.26648	785	0.00474
370	0.00071	510	0.26526	650	0.24026	790	0.00411
375	0.00097	515	0.28498	655	0.21506	795	0.00352
380	0.00137	520	0.30072	660	0.19127	800	0.00304
385	0.00193	525	0.31425	665	0.16923		
390	0.00242	530	0.32538	670	0.14834		
395	0.00275	535	0.33673	675	0.13011		
400	0.00306	540	0.34744	680	0.11358		
405	0.00348	545	0.35805	685	0.09841		
410	0.00449	550	0.37019	690	0.08549		
415	0.00677	555	0.38252	695	0.07395		
420	0.01173	560	0.39583	700	0.06358		
425	0.02174	565	0.40987	705	0.05481		
430	0.04124	570	0.42260	710	0.04709		
435	0.07717	575	0.43566	715	0.04042		
440	0.13837	580	0.44573	720	0.03477		
445	0.24511	585	0.45436	725	0.02979		
450	0.41021	590	0.45965	730	0.02552		
455	0.51145	595	0.45973	735	0.02186		
460	0.41929	600	0.45557	740	0.01865		
465	0.29714	605	0.44748	745	0.01598		
470	0.23897	610	0.43479	750	0.01374		
475	0.18768	615	0.41730	755	0.01184		
480	0.15377	620	0.39697	760	0.01011		
485	0.15106	625	0.37326	765	0.00864		

IES TM-30-18 Color Rendition Report



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

x 0.3824
 y 0.3820
 u' 0.2243
 v' 0.5041

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 L20081.
Dialight unit model number H[C,E,F,W][D,U]-[4,V]MN-[2,8]Ex-xxx-xx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 1.5427 (A)
Input Power: 184.1 (W)
Power Factor: 0.9944

Photometric measurements:

Absolute Luminous Flux: 26432.1 (lumens)
Luminous Efficacy: 143.6 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	9699	9684	9679	9658	9699	
5.00	9871	9857	9843	9927	10031	1005
15.00	10148	9988	9763	10145	10506	2889
25.00	10598	10527	10252	10900	11216	4988
35.00	10808	10393	10297	10670	11004	6745
45.00	8282	7940	7737	7895	8107	6248
55.00	3996	3629	3475	3584	3618	3333
65.00	886	804	743	729	664	763
75.00	86	83	77	79	70	83
85.00	20	19	18	18	12	10
90.00	2	2	2	1	1	

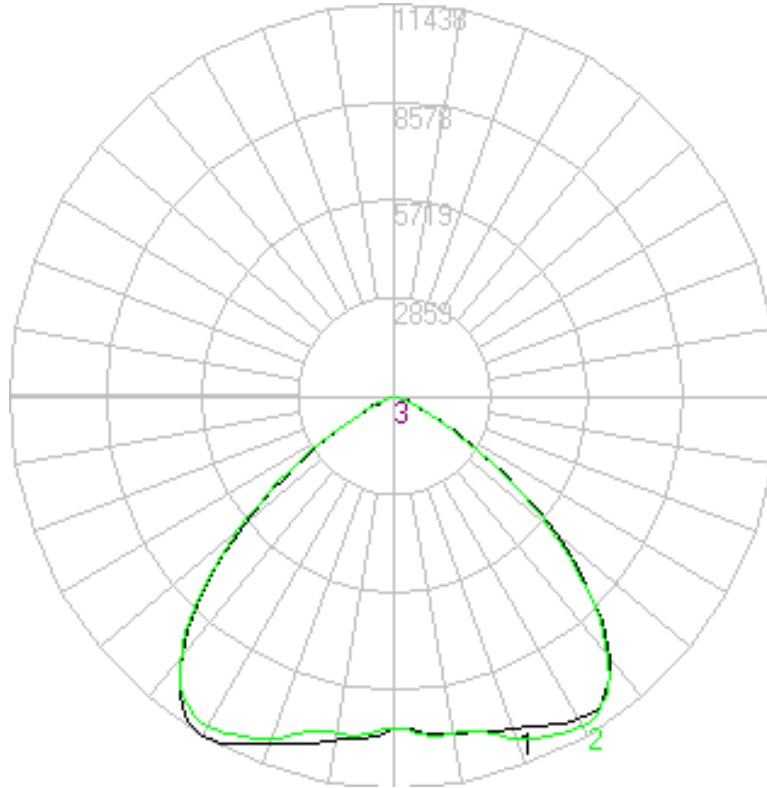
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	8954.96	33.88	33.88
0 to 40	15710.59	59.44	59.44
0 to 60	25447.05	96.27	96.27
0 to 90	26432.09	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	26432.09	100.00	100.00

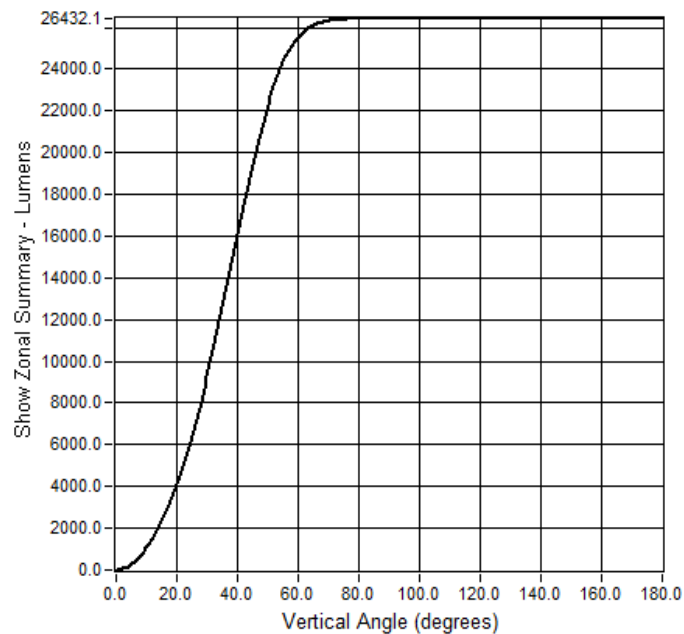
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



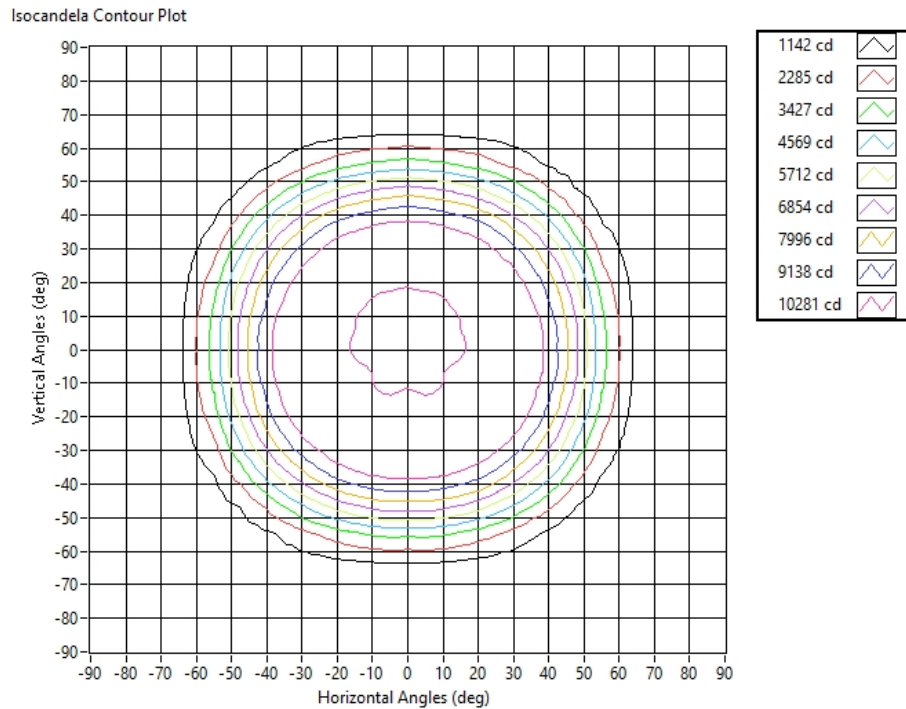
Zonal Flux Graph



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	5.37	5.17	2418.9
4	10.74	10.33	604.7
6	16.10	15.50	268.8
8	21.47	20.67	151.2
10	26.84	25.83	96.8
12	32.21	31.00	67.2
14	37.58	36.17	49.4
16	42.94	41.33	37.8
18	48.31	46.50	29.9
20	53.68	51.67	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 Spectrameter- 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