

Test Report

Report Number: L20083

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]-[7,R]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 10, 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: L20083
Manufacturer: Dialight Corporation
Product Name: High Bay
Description: High Bay
Model Number: H[C,E,F,W][D,U]-[7,R]NN-[2,8]Ex-xxx-xx

Report Summary

Sample number L20083

Dialight unit model number H[C,E,F,W][D,U]-[7,R]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:	26782 (lumens)	26515 (lumens)
Electrical Power:	185.7 (W)	183.9 (W)
Luminous Efficacy:	144.2 (lumens/W)	144.2 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 185.7 (W)
 Power Factor (120VAC): 0.995516
 Current ATHD % (120VAC): 5.01027
 Input Power (277VAC): 179.3 (W)
 Power Factor (277VAC): 0.961
 Current ATHD % (277VAC): 9.527

Color Measurements:

Correlated Color Temperature (CCT): 4016
 Color Rendering Index (CRI): 83.3751
 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 L20083.

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

Test Conditions:

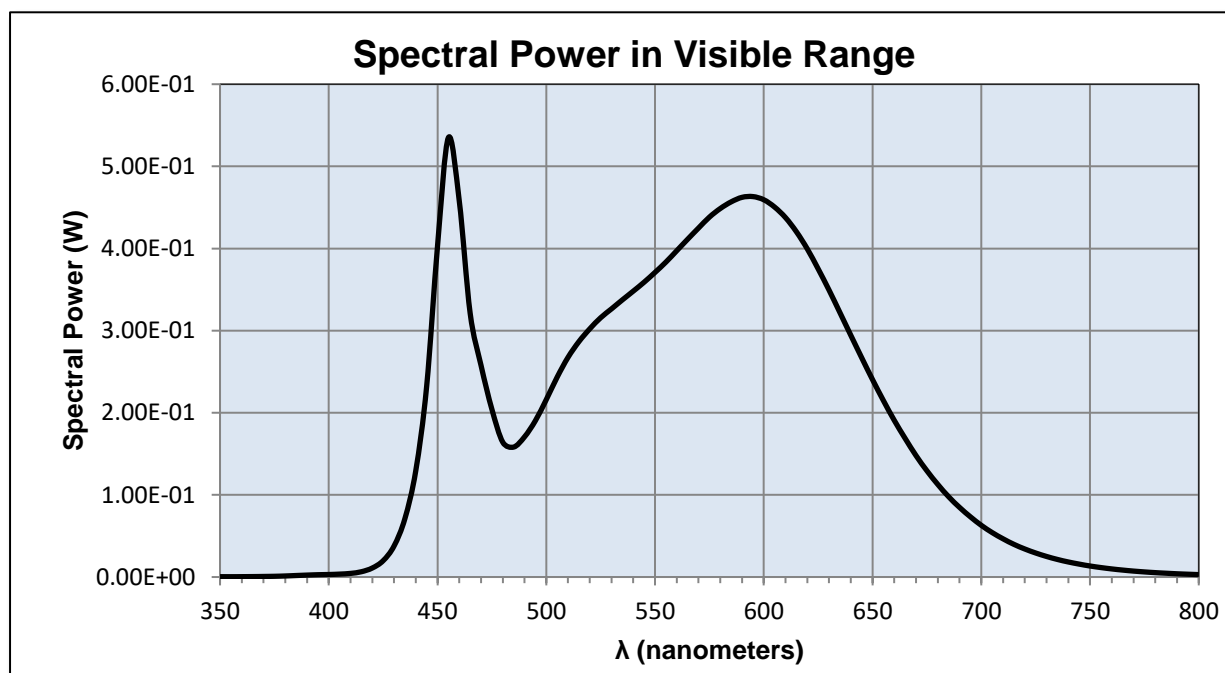
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 1.55347 (A)
Input Power: 185.7 (W)
Input Power Factor: 0.995516
Current ATHD: 5.01027 (%)

Photometric measurements:

Luminous Flux: 26781.63 (lumens)
Luminous Efficacy: 144.2 (lumens/W)
Correlated Color Temperature (CCT): 4016 (K)
CRI -Ra: 83.3751
CRI -R9: 10.5223
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: 92.8
TM30_Rcs_hue1: -11.94 %



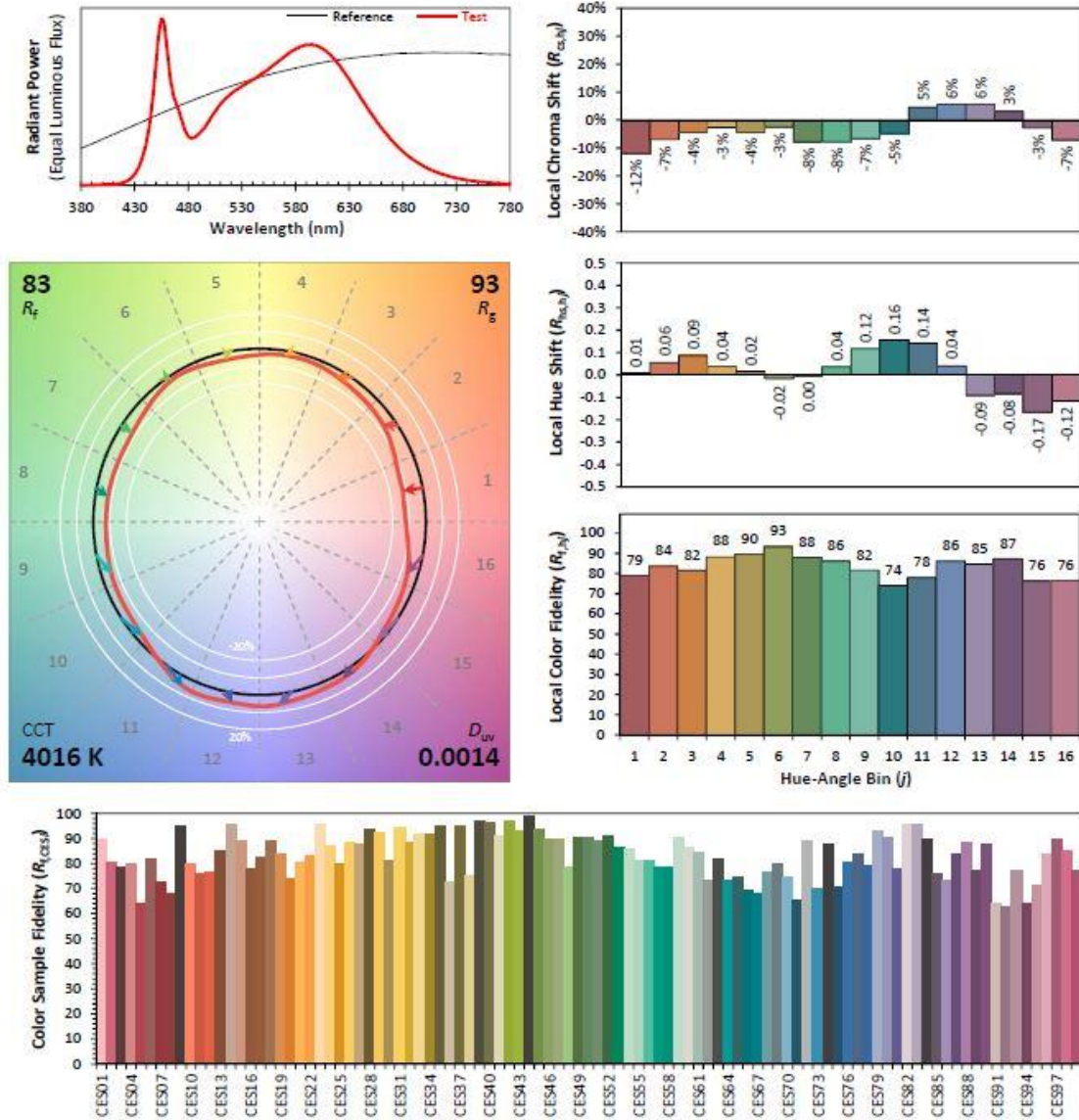
Test Results: Integrating Sphere

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	0.00040	490	0.17062	630	0.34939	770	0.00723
355	0.00039	495	0.19035	635	0.32200	775	0.00622
360	0.00045	500	0.21598	640	0.29435	780	0.00533
365	0.00054	505	0.24334	645	0.26711	785	0.00463
370	0.00071	510	0.26749	650	0.24037	790	0.00396
375	0.00091	515	0.28657	655	0.21487	795	0.00342
380	0.00129	520	0.30217	660	0.19071	800	0.00296
385	0.00183	525	0.31566	665	0.16872		
390	0.00236	530	0.32649	670	0.14787		
395	0.00281	535	0.33746	675	0.12939		
400	0.00308	540	0.34805	680	0.11276		
405	0.00355	545	0.35896	685	0.09775		
410	0.00442	550	0.37089	690	0.08479		
415	0.00646	555	0.38341	695	0.07331		
420	0.01096	560	0.39732	700	0.06299		
425	0.01989	565	0.41127	705	0.05415		
430	0.03776	570	0.42487	710	0.04653		
435	0.07116	575	0.43817	715	0.03978		
440	0.12944	580	0.44865	720	0.03416		
445	0.23215	585	0.45675	725	0.02928		
450	0.40301	590	0.46229	730	0.02506		
455	0.53503	595	0.46318	735	0.02142		
460	0.45760	600	0.45934	740	0.01834		
465	0.32125	605	0.45035	745	0.01572		
470	0.25773	610	0.43756	750	0.01342		
475	0.20416	615	0.42036	755	0.01153		
480	0.16412	620	0.39956	760	0.00985		
485	0.15822	625	0.37519	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 0.3807
 y 0.3799
 u' 0.2240
 v' 0.5030

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 L20083.
Dialight unit model number H[C,E,F,W][D,U]-[7,R]NN-[2,8]Ex-xxx-xx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 1.5406 (A)
Input Power: 183.9 (W)
Power Factor: 0.9944

Photometric measurements:

Absolute Luminous Flux: 26514.5 (lumens)
Luminous Efficacy: 144.2 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	25489	25530	25543	25542	25489	
5.00	25079	24680	24425	24453	24620	2513
15.00	18524	18391	18258	18370	17970	5182
25.00	11155	11250	11290	11128	10895	5137
35.00	8238	8192	8336	8199	8204	5170
45.00	6605	6575	6632	6655	6615	5122
55.00	3686	3642	3603	3708	3421	3221
65.00	363	377	399	413	348	368
75.00	81	77	85	82	83	86
85.00	6	6	8	8	7	4
90.00	1	1	1	1	1	

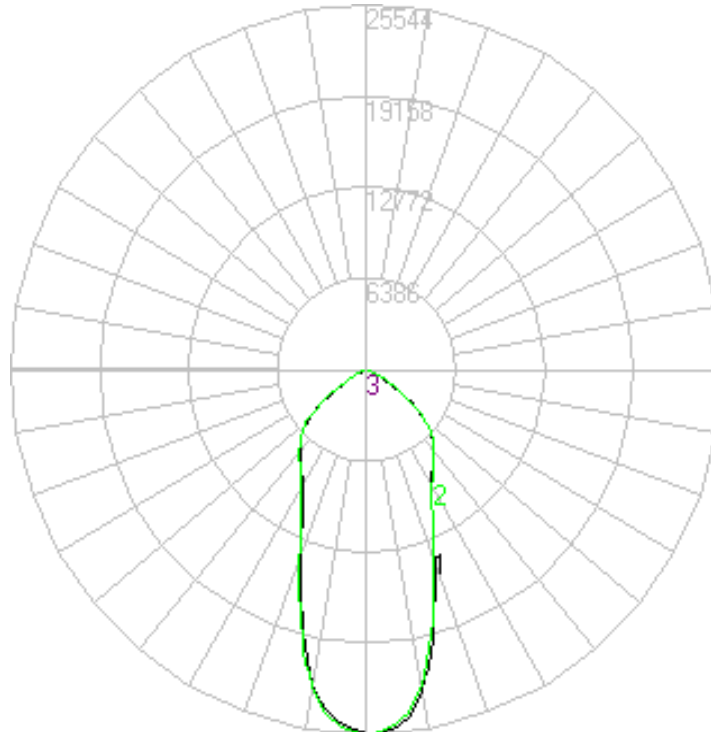
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	12513.44	47.19	47.19
0 to 40	17695.44	66.74	66.74
0 to 60	25902.67	97.69	97.69
0 to 90	26514.52	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	26514.52	100.00	100.00

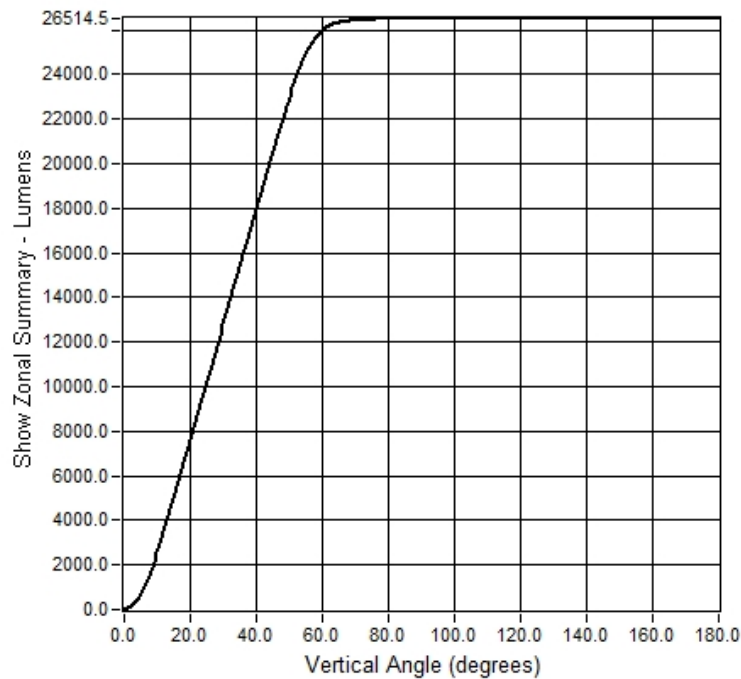
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



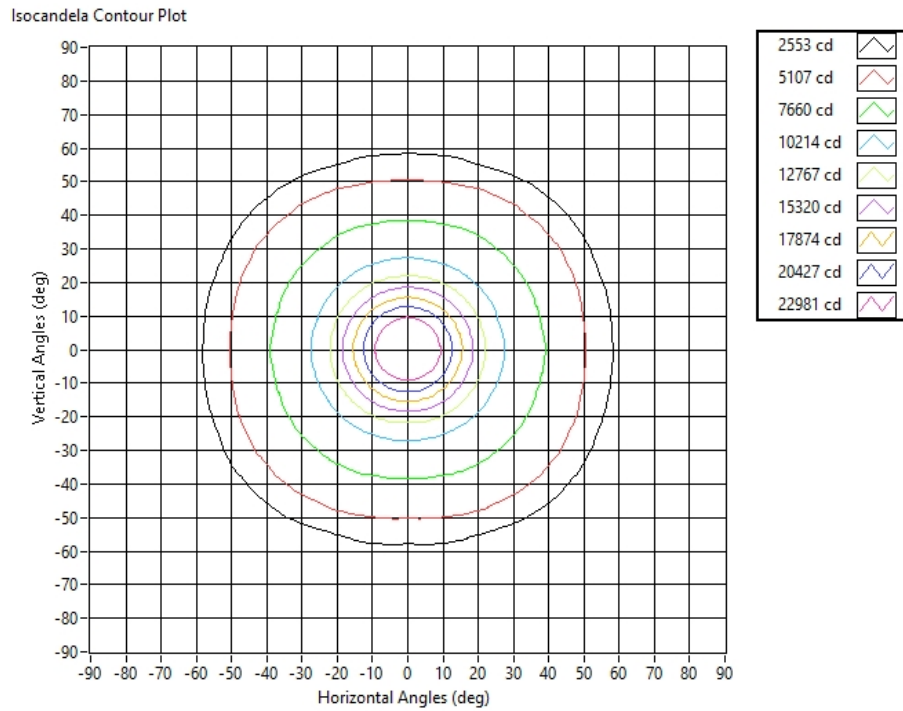
Zonal Flux Graph



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	1.63	1.54	6383.5
4	3.26	3.07	1595.9
6	4.89	4.61	709.3
8	6.52	6.15	399.0
10	8.16	7.69	255.3
12	9.79	9.22	177.3
14	11.42	10.76	130.3
16	13.05	12.30	99.7
18	14.68	13.83	78.8
20	16.31	15.37	63.8

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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 Optical Engineer
 Approved Signatory