

Test Report

Report Number: L20098

Date: Jan 6, 2021

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]-[L,Z]EN-[5,9]Cx-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 18, 2020 through November 19, 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: L20098

Manufacturer: Dialight Corporation

Product Name: High Bay

Description: High Bay

Model Number: H[C,E,F,W][D,U]-[L,Z]EN-[5,9]Cx-xxx-xx

Report Summary

Sample number L20098

Dialight unit model number H[C,E,F,W][D,U]-[L,Z]EN-[5,9]Cx-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:	17840 (lumens)	17724 (lumens)
Electrical Power:	130.9 (W)	130.8 (W)
Luminous Efficacy:	136.3 (lumens/W)	135.5 (lumens/W)

Electrical Measurements:

Input Power (480VAC): 130.9 (W)
 Power Factor (480VAC): 0.966398
 Current ATHD % (480VAC): 12.4093
 Input Power (347VAC): 130.8 (W)
 Power Factor (347VAC): 0.9664
 Current ATHD % (347VAC): 12.41

Color Measurements:

Correlated Color Temperature (CCT): 3970
 Color Rendering Index (CRI): 83.3931
 Chromaticity Coordinate (x): 0.383
 Chromaticity Coordinate (y): 0.383
 Chromaticity Coordinate (u'): 0.224
 Chromaticity Coordinate (v'): 0.337
 DUV: 0.0022

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20098.

Dialight unit model number H[C,E,F,W][D,U]-[L,Z]EN-[5,9]Cx-xxx-xx

Test Conditions:

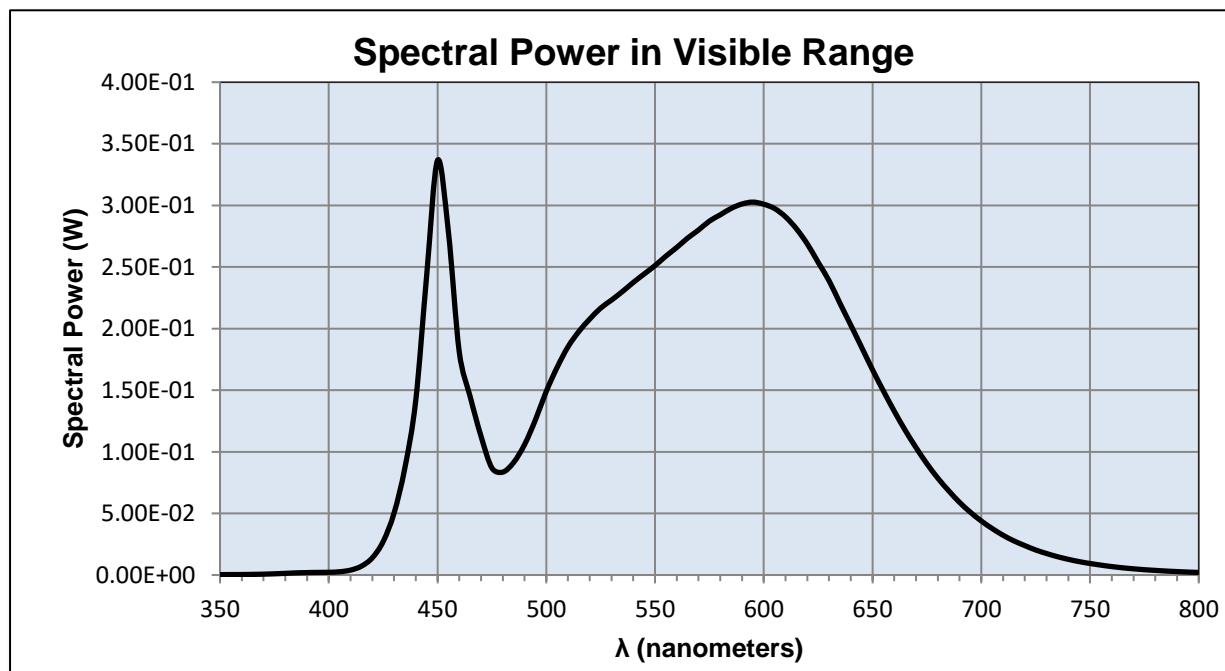
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 480 (VAC)
Input Current: 0.282096 (A)
Input Power: 130.9 (W)
Input Power Factor: 0.966398
Current ATHD: 12.4093 (%)

Photometric measurements:

Luminous Flux: 17840.46 (lumens)
Luminous Efficacy: 136.3 (lumens/W)
Correlated Color Temperature (CCT): 3970 (K)
CRI -Ra: 83.3931
CRI -R9: 13.1249
DUV: 0.0022
CIE Coordinate (x): 0.383
CIE Coordinate (y): 0.383
CIE Coordinate (u'): 0.224
CIE Coordinate (v'): 0.337
TM30_Rf: 83.0
TM30_Rg: 95.9
TM30_Rcs_hue1: -11.08 %



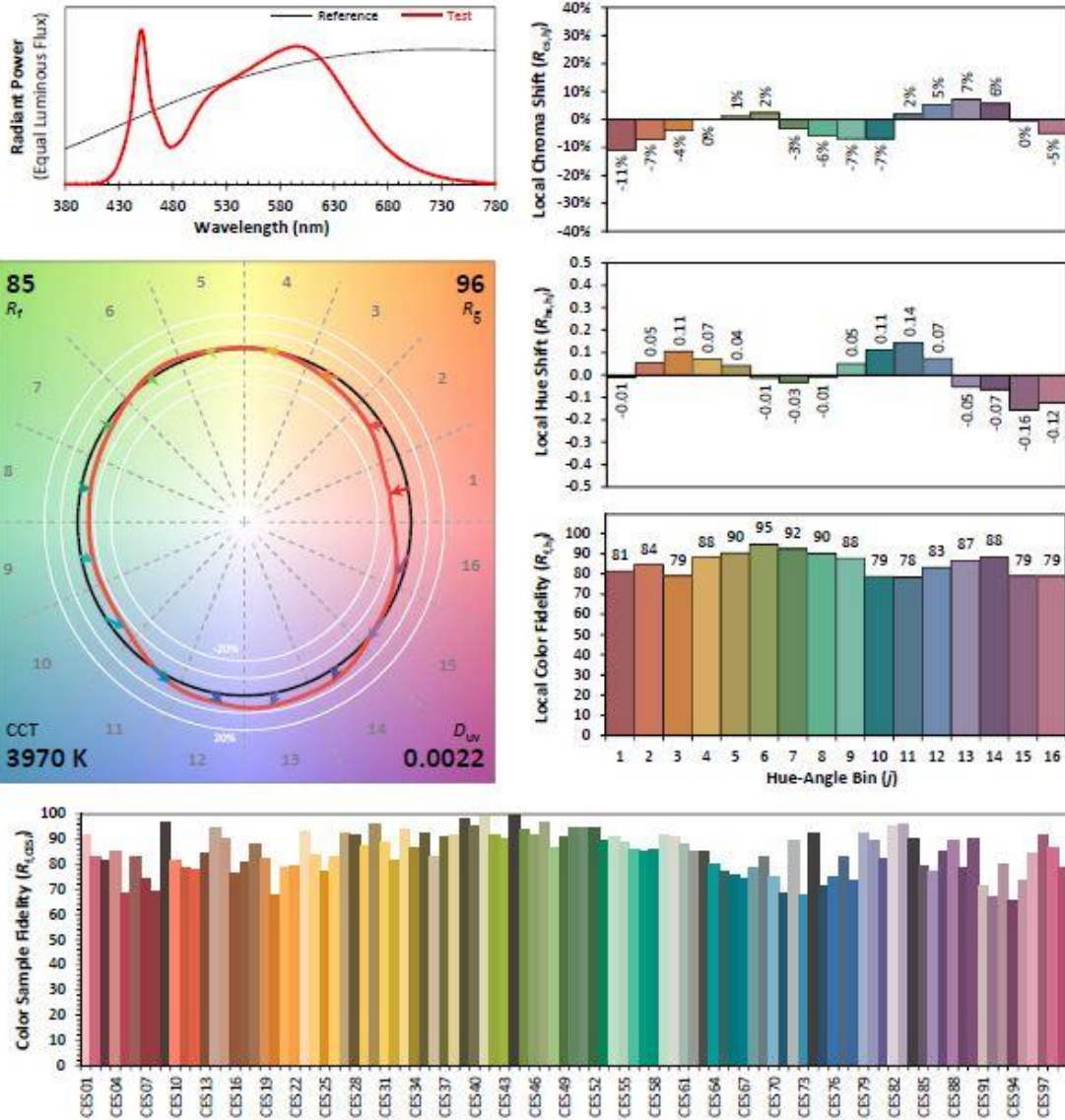
Test Results: Integrating Sphere

Results continued from previous page.

Tabulated Spectral Power in Visible Range:

λ (nm)	(W/nm)	λ (nm)	(W/nm)	λ (nm)	(W/nm)	λ (nm)	(W/nm)
350	0.00031	490	0.10580	630	0.23892	770	0.00503
355	0.00038	495	0.12587	635	0.22065	775	0.00433
360	0.00041	500	0.14907	640	0.20287	780	0.00375
365	0.00054	505	0.16860	645	0.18480	785	0.00321
370	0.00070	510	0.18527	650	0.16661	790	0.00281
375	0.00099	515	0.19769	655	0.14942	795	0.00240
380	0.00135	520	0.20777	660	0.13298	800	0.00208
385	0.00174	525	0.21663	665	0.11754		
390	0.00198	530	0.22318	670	0.10344		
395	0.00213	535	0.23008	675	0.09036		
400	0.00223	540	0.23747	680	0.07869		
405	0.00266	545	0.24434	685	0.06844		
410	0.00397	550	0.25116	690	0.05899		
415	0.00718	555	0.25885	695	0.05094		
420	0.01394	560	0.26588	700	0.04389		
425	0.02717	565	0.27350	705	0.03776		
430	0.05021	570	0.28002	710	0.03230		
435	0.08711	575	0.28726	715	0.02772		
440	0.14185	580	0.29237	720	0.02391		
445	0.24291	585	0.29758	725	0.02034		
450	0.33655	590	0.30115	730	0.01746		
455	0.27842	595	0.30268	735	0.01491		
460	0.18085	600	0.30097	740	0.01274		
465	0.14485	605	0.29745	745	0.01087		
470	0.11264	610	0.29071	750	0.00936		
475	0.08692	615	0.28104	755	0.00805		
480	0.08352	620	0.26881	760	0.00685		
485	0.09138	625	0.25382	765	0.00586		

IES TM-30-18 Color Rendition Report



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

x 0.3834
 y 0.3833
 u' 0.2244
 v' 0.5049

CIE 13.3-1995	
(CRI)	
R_a	83
R_g	13

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L20098.
Dialight unit model number H[C,E,F,W][D,U]-[L,Z]EN-[5,9]Cx-xxx-xx

Electrical Measurements:

Input Voltage: 480 (VAC)
Input current: 0.28261 (A)
Input Power: 130.8 (W)
Power Factor: 0.9648

Photometric measurements:

Absolute Luminous Flux: 17723.9 (lumens)
Luminous Efficacy: 135.5 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	10400	10404	10415	10424	10400	
5.00	10048	10193	10359	10272	9976	1027
15.00	7953	8727	9982	8940	7829	2378
25.00	5976	6833	9243	7034	5929	3059
35.00	4561	5305	8228	5429	4451	3258
45.00	2488	3955	6971	4055	2215	2588
55.00	780	2057	5450	2177	652	1487
65.00	319	638	3705	661	292	810
75.00	199	248	1700	243	192	419
85.00	144	147	331	145	139	129
90.00	131	134	182	132	130	

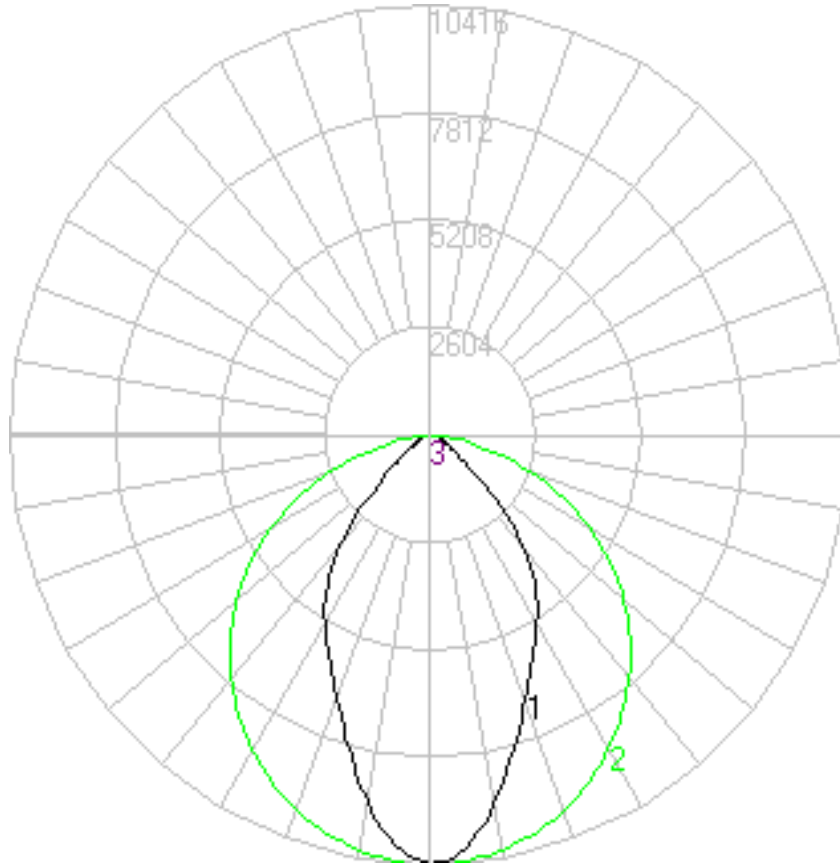
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	6774.08	38.22	38.22
0 to 40	10395.71	58.65	58.65
0 to 60	15786.61	89.07	89.07
0 to 90	17723.93	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	17723.93	100.00	100.00

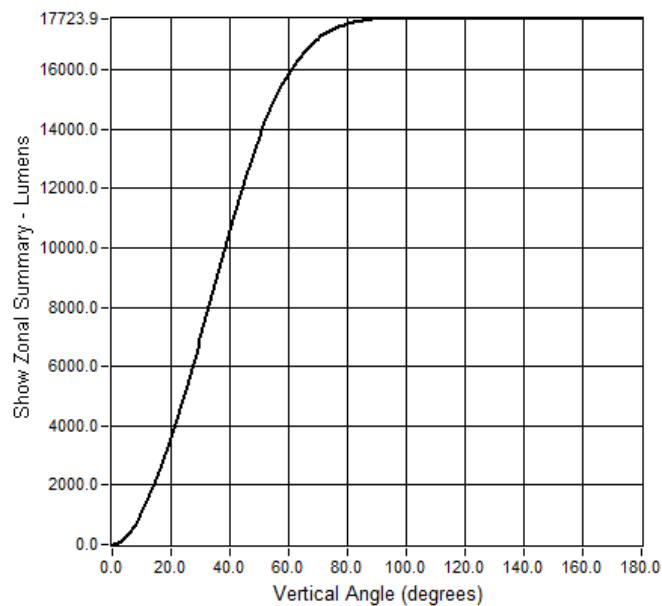
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



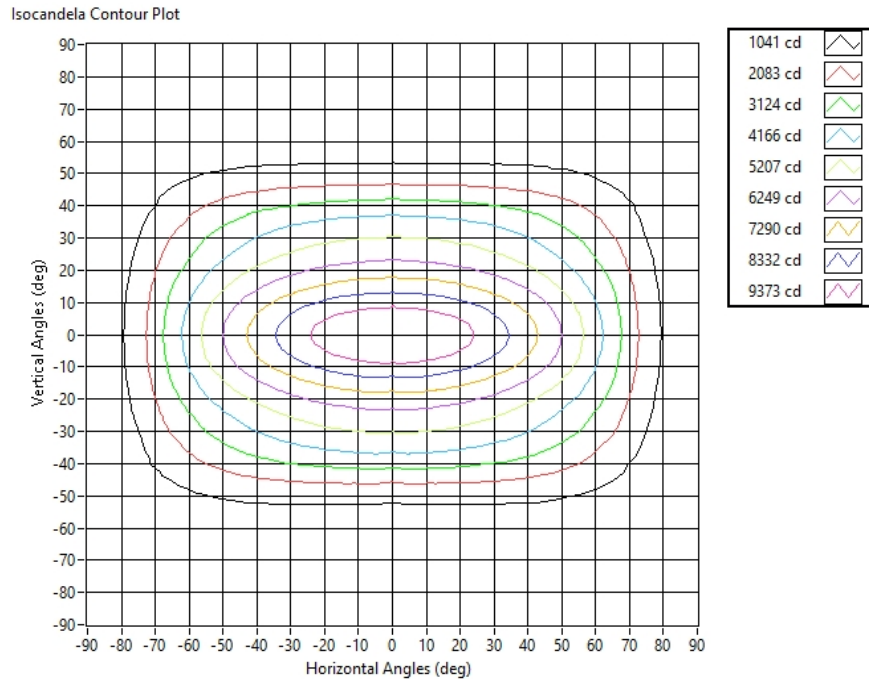
Zonal Flux Graph



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	2.37	6.06	2602.9
4	4.74	12.12	650.7
6	7.11	18.18	289.2
8	9.48	24.24	162.7
10	11.85	30.30	104.1
12	14.22	36.36	72.3
14	16.59	42.42	53.1
16	18.96	48.48	40.7
18	21.32	54.54	32.1
20	23.69	60.60	26.0

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