

Test Report

Report Number: L23029

Date: Nov 3, 2023

Issued by:

Dialight Optics Laboratory
1501 Route 34 South, Farmingdale, NJ 07727

Test of one GRP Linear
Unit manufacturer: Dialight Corporation
Unit model number: P4BBMN26xxxxxx

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: October 23, 2023 through October 25, 2023

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-79:2019: Optical and Electrical 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: L23029
Manufacturer: Dialight Corporation
Product Name: SafeSite GRP LED Linear, 4ft, Medium
Description: GRP Linear
Model Number: P4BBMN26xxxxxx

Report Summary

Sample number L23029
Dialight unit model number P4BBMN26xxxxxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	5452 (lumens)	5492 (lumens)
Electrical Power:	47.1 (W)	47.1 (W)
Luminous Efficacy:	115.8 (lumens/W)	116.6 (lumens/W)

Electrical Measurements:

Primary Voltage:	Input Power (120VAC):	47.1 (W)
	Power Factor (120VAC):	0.9901
	Current ATHD % (120VAC):	12.90
Secondary Voltage:	Input Power (277VAC):	46.4 (W)
	Power Factor (277VAC):	0.9761
	Current ATHD % (277VAC):	9.69

Color Measurements:

Correlated Color Temperature (CCT):	3931 (K)
Color Rendering Index (CRI):	84.02
Chromaticity Coordinate (x):	0.385
Chromaticity Coordinate (y):	0.383
Chromaticity Coordinate (u')	0.226
Chromaticity Coordinate (v')	0.505
DUV:	0.0016

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L23029.

Dialight unit model number P4BBMN26xxxxxx

Test Conditions:

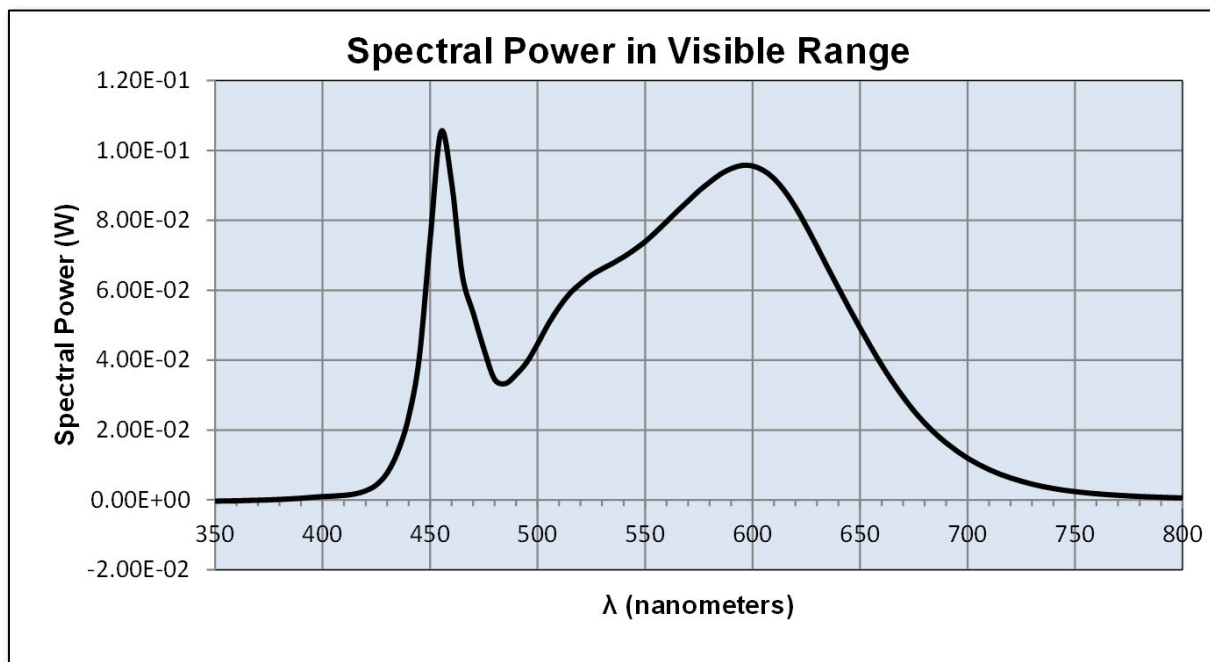
Ambient Temperature: 25 ± 1.2 (°C)
Ambient Relative Humidity: 10 to 65 (%RH)

Electrical Measurements:

Input Voltage: 120.1 (VAC)
Input Current: 0.396 (A)
Input Power: 47.1 (W)
Input Power Factor: 0.9901
Current ATHD: 12.90 (%)

Photometric measurements:

Luminous Flux: 5452.1 (lumens)
Luminous Efficacy: 115.8 (lumens/W)
Correlated Color Temperature (CCT): 3931 (K)
CRI -Ra: 84.02
CRI -R9: 11.17
DUV: 0.0016
CIE Coordinate (x): 0.385
CIE Coordinate (y): 0.383
CIE Coordinate (u'): 0.226
CIE Coordinate (v'): 0.505
TM30_Rf: 83.6
TM30_Rg: 92.7
TM30_Rcs_hue1: -11.78 %



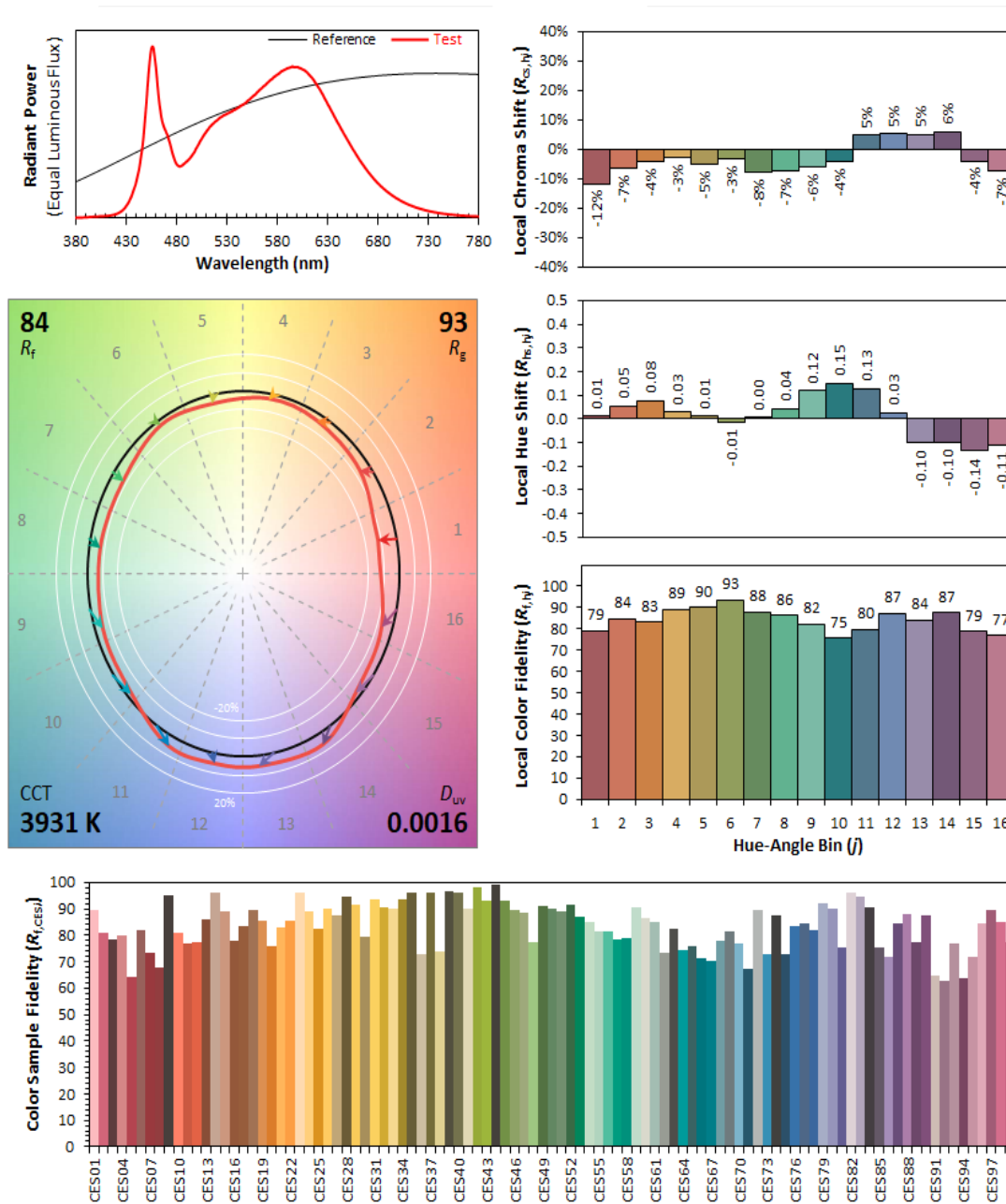
Test Results: Integrating Sphere

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	-0.00034	490	0.03589	630	0.07244	770	0.00133
355	-0.00028	495	0.03945	635	0.06641	775	0.00115
360	-0.00023	500	0.04466	640	0.06053	780	0.00100
365	-0.00014	505	0.05035	645	0.05478	785	0.00087
370	-0.00007	510	0.05519	650	0.04920	790	0.00076
375	0.00003	515	0.05910	655	0.04380	795	0.00066
380	0.00015	520	0.06194	660	0.03862	800	0.00058
385	0.00030	525	0.06433	665	0.03387		
390	0.00050	530	0.06613	670	0.02950		
395	0.00074	535	0.06775	675	0.02552		
400	0.00096	540	0.06952	680	0.02204		
405	0.00110	545	0.07161	685	0.01899		
410	0.00131	550	0.07390	690	0.01634		
415	0.00173	555	0.07668	695	0.01400		
420	0.00259	560	0.07962	700	0.01195		
425	0.00431	565	0.08265	705	0.01020		
430	0.00770	570	0.08554	710	0.00869		
435	0.01385	575	0.08844	715	0.00739		
440	0.02370	580	0.09091	720	0.00630		
445	0.04093	585	0.09321	725	0.00536		
450	0.07441	590	0.09481	730	0.00453		
455	0.10525	595	0.09572	735	0.00384		
460	0.09081	600	0.09559	740	0.00326		
465	0.06416	605	0.09432	745	0.00278		
470	0.05358	610	0.09194	750	0.00239		
475	0.04322	615	0.08835	755	0.00205		
480	0.03450	620	0.08374	760	0.00177		
485	0.03330	625	0.07830	765	0.00153		

IES TM-30-18 Color Rendition Report



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

x 0.3847
 y 0.3827
 u' 0.2255
 v' 0.5048

CIE 13.3-1995
(CRI)

R_a 84
 R_g 11

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L23029.
Dialight unit model number P4BBMN26xxxxxx

Electrical Measurements:

Input Voltage: 120.0 (VAC)
Input current: 0.40 (A)
Input Power: 47.12 (W)
Power Factor: 0.9824

Photometric measurements:

Absolute Luminous Flux: 5492.2 (lumens)
Luminous Efficacy: 116.6 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	2104	2104	2104	2104	2104	
5.00	2109	2096	2098	2098	2112	214
15.00	2062	2067	2088	2059	2046	584
25.00	1938	2019	2042	2005	1939	912
35.00	1705	1853	1867	1841	1691	1103
45.00	1347	1496	1522	1493	1331	1085
55.00	891	963	990	967	881	824
65.00	443	456	427	468	444	443
75.00	172	183	143	191	174	183
85.00	25	50	41	53	26	19
90.00	0	0	0	0	0	

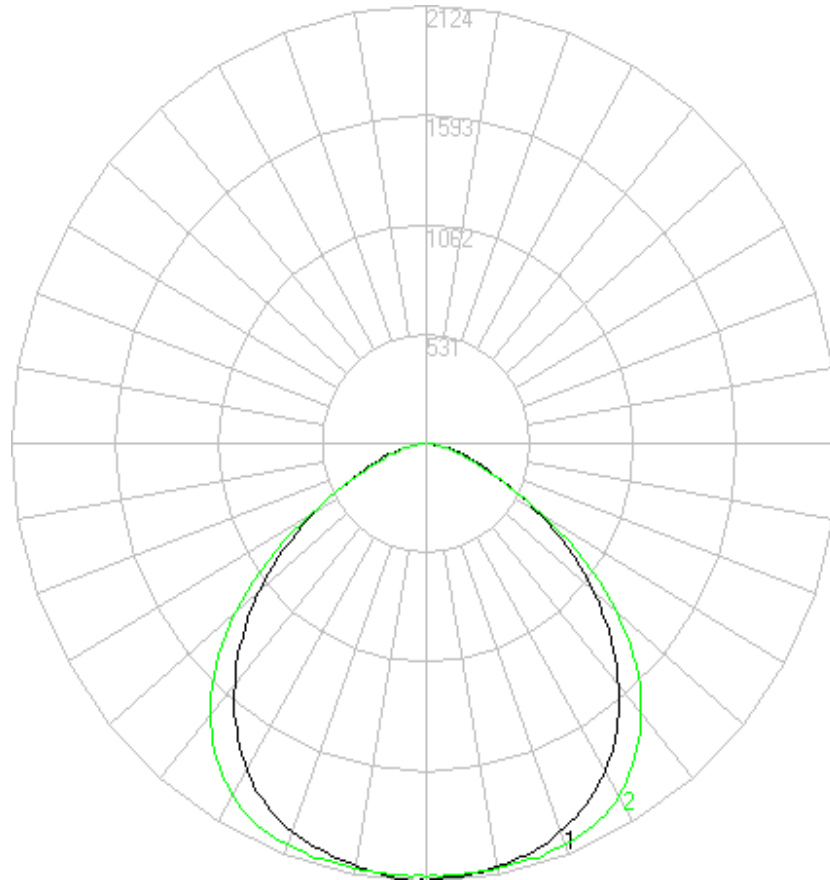
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	1706.72	31.08	31.08
0 to 40	2836.84	51.66	51.66
0 to 60	4801.88	87.44	87.44
0 to 90	5491.33	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	5491.33	100.00	100.00

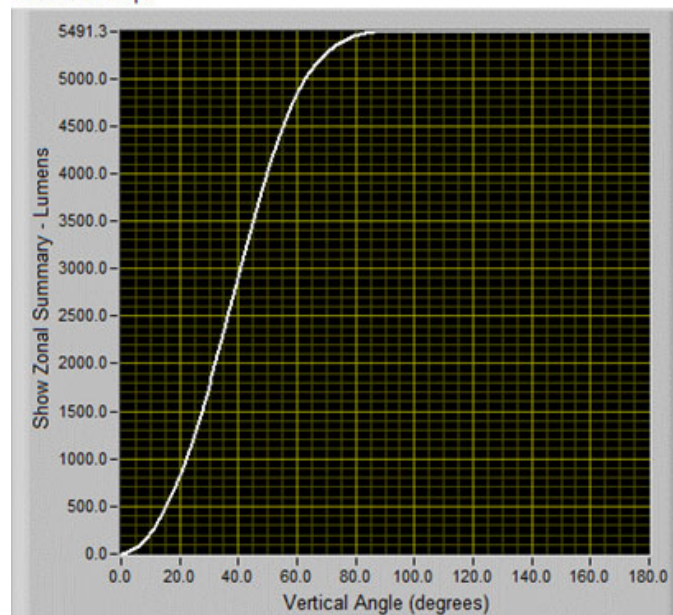
Test Results: Goniometer

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Polar Plot:



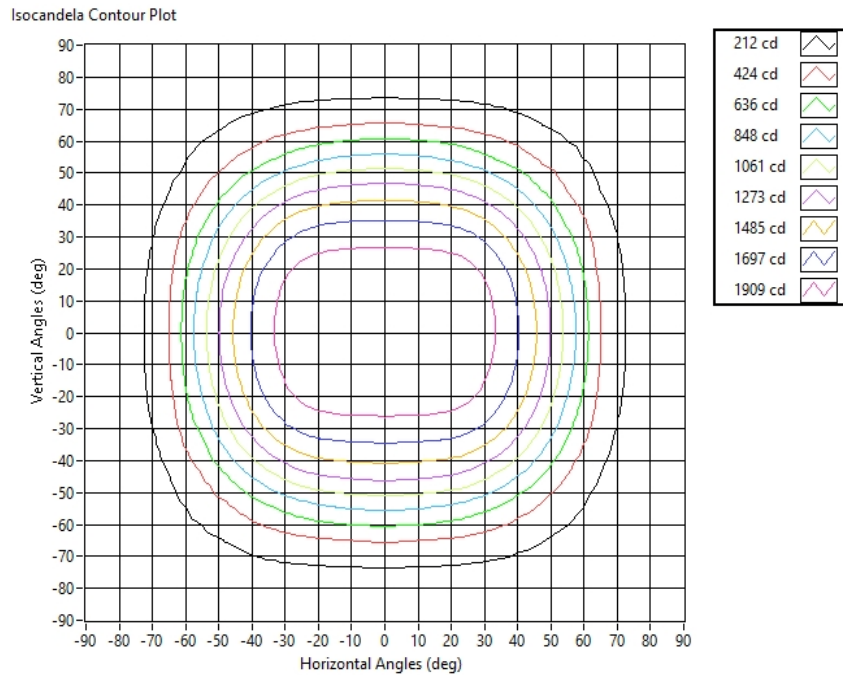
Zonal Flux Graph



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	5.03	5.31	525.9
4	10.05	10.63	131.5
6	15.08	15.94	58.4
8	20.10	21.25	32.9
10	25.13	26.57	21.0
12	30.15	31.88	14.6
14	35.18	37.19	10.7
16	40.20	42.51	8.2
18	45.23	47.82	6.5
20	50.25	53.13	5.3

Equipment Used:

Equipment Name	Model Number
Omega TC	DPI8
Type-C Moving Mirror Goniometer	6240T
Elgar AC Power Supply	CW1251P
Sorensen DC Power Supply	XHR150-7
Dialight Confirmation Sample	RRE2MN2CxxxxxN
Fluke 8808A Digit Multimeter	8808A
Step-Up Transformer	
Omega Thermocouple	5TC-TT-K
Fluke 971 Humidity Meter	971
GwINSTEK DC Power Supply	GEP172679
Omega TC	TC-08
Labshere 2M sphere	Illumia Plus 2600-195
Labshere Controller	PM-150-140
Xitron Power Analyzer	XT2640
Xitron Power Analyzer	XT2640
LPS-525 DC Power Supply	LPS-525
Omega Temperature Controller	DP41-RTD-A
YOKOGAWA Digital Power Meter	WT310E
STS Luminous Intensity Standard Lamp for Type-C Cal	STD-EHD
STS Luminous Intensity Standard Lamp for Type-C Cal	STD-EHD
STS Luminous Intensity Standard Lamp for Type-C Cal	STD-EHD
Dialight Confirmation Sample	VEx7RB2Exxxxxx
Labsphere calibration lamp for 2M sphere	SCL-1400
Labsphere calibration lamp for 2M sphere	SCL-1400
Labsphere calibration lamp for 2M sphere	SCL-1400
Labshere Spectrometer- CDS 2600 Spectrometer	CDS-2600

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.

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