



8165 E Kaiser Blvd.
Anaheim, CA 92808
www.lightlaboratory.com

Report No: L052110502



Report No: L052110502

Issue Date: 6/8/2021

Report Prepared For: Graypants, Inc.
3220 1st Ave S Suite #400, Seattle, WA, 98134

Model Number: DASH93

Test: Photometric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:

IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products

ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Total lumens and electricals are generated from light laboratory report L052110501 by using ratio of 2.0.

Sample Arrival Date: 6/7/21

Date of Tests: 6/7/21 - 6/8/21

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S4	4/7/23
HP Power Supply	6032A	PS-DC05-S2	--
Fluke Digital Thermometer	52K/J	MT-TP05	3/17/23
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use



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General Information

Manufacturer:	Graypants, Inc.
Model Number:	DASH93
Driver Model Number:	RP PSB30W-0700-42(2 DRIVERS)

Test Summary

Total Lumens:	11023.41
Efficacy:	116.62
Input Voltage (VAC/60Hz):	277.00
Input Current (Amp):	0.3650
Input Power (W):	94.52
Input Power Factor:	0.9348
Current ATHD (%):	16.7%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	0:50



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Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 10*



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L052110502.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L052110502
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 6/8/2021
[MANUFAC] Graypants, Inc.
[LUMCAT] DASH93
[LUMINAIRE] LED LUMINAIRE
[BALLASTCAT] ERP PSB30W-0700-42(2 DRIVERS)
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[TEST CONDITION] CANDELA VALUES AND ELECTRICALS ARE GENERATED FROM LIGHT LABORATORY REPORT
[MORE] L052110501 BY USING RATIO OF 2.0.
[INPUT] 277.0VAC, 94.32W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11023
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
Total Luminaire Watts	94.32
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.88 ft
Luminous Width (90-270)	0.27 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	24011	17406	3470
55	18291	3669	3454
65	15157	3473	3376
75	13009	3411	3213
85	8009	3298	2827

IES INDOOR REPORT
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CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0	2858	2858	2858	2858	2858	2858	2858	2858	2858	2858
5	2845	2843	2854	2843	2838	2844	2852	2865	2870	2869
10	2811	2809	2824	2814	2814	2822	2836	2854	2862	2867
15	2754	2756	2772	2767	2773	2786	2807	2832	2841	2854
20	2673	2677	2695	2698	2710	2730	2763	2791	2804	2821
25	2558	2568	2590	2602	2623	2652	2692	2720	2732	2748
30	2412	2426	2451	2475	2498	2534	2569	2586	2594	2594
35	2218	2237	2266	2292	2309	2335	2348	2340	2327	2313
40	1964	1981	2005	2019	2014	2014	1988	1955	1921	1856
45	1654	1662	1670	1659	1639	1609	1567	1504	1407	1199
50	1315	1318	1316	1294	1270	1235	1164	1026	618	299
55	1022	1024	1016	991	969	903	733	332	228	205
60	798	799	787	764	719	543	240	188	167	172
65	624	625	611	588	439	191	147	148	148	143
70	471	472	463	370	146	118	120	117	116	113
75	328	330	302	106	92	91	89	89	87	86
80	192	196	67	62	61	61	62	59	58	59
85	68	34	33	33	33	32	31	31	29	28
90	10	11	9	8	8	7	6	6	5	5
95	46	52	65	85	112	144	177	202	219	228
100	115	120	136	164	203	255	315	372	423	467
105	203	208	227	259	307	372	450	527	596	655
110	300	306	325	363	420	496	598	690	774	853
115	413	419	438	477	539	623	736	844	947	1045
120	523	529	549	590	652	735	843	954	1069	1185
125	634	640	660	697	754	830	931	1033	1142	1260
130	743	749	767	802	852	917	995	1078	1175	1283
135	850	855	871	897	937	985	1043	1112	1189	1283
140	901	907	937	963	998	1045	1099	1154	1211	1270
145	997	1002	1013	1029	1055	1093	1141	1184	1228	1275
150	1088	1091	1100	1110	1128	1155	1194	1227	1260	1293
155	1164	1168	1174	1182	1194	1214	1243	1267	1291	1313
160	1234	1237	1240	1244	1251	1262	1282	1298	1313	1330
165	1286	1288	1291	1292	1295	1301	1314	1326	1333	1341
170	1325	1328	1330	1329	1329	1333	1339	1348	1351	1353
175	1352	1353	1354	1351	1350	1351	1355	1360	1361	1360
180	1356	1356	1356	1356	1356	1356	1356	1356	1356	1356

Vert. Horizontal Angles

	50	55	60	65	70	75	80	85	90
0	2858	2858	2858	2858	2858	2858	2858	2858	2858
5	2866	2861	2860	2864	2865	2861	2862	2863	2872
10	2866	2867	2868	2879	2885	2879	2881	2895	2827
15	2858	2866	2874	2886	2896	2894	2891	2897	2853
20	2829	2843	2851	2870	2877	2873	2874	2865	2937
25	2754	2766	2773	2786	2790	2785	2789	2779	2824
30	2594	2596	2597	2603	2593	2574	2566	2551	2564
35	2293	2259	2217	2173	2125	2058	1981	1918	1865
40	1770	1637	1307	894	581	424	361	336	330
45	729	365	282	260	250	245	241	240	239
50	244	228	218	208	209	212	214	215	215
55	188	192	196	198	197	196	195	194	193
60	173	170	167	166	167	167	167	167	166

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CANDELA TABULATION - (Cont.)

65	143	142	140	138	138	139	139	139	139
70	115	115	113	111	110	111	111	111	111
75	87	86	85	83	82	82	81	82	81
80	58	57	56	55	54	54	54	54	54
85	27	25	24	24	24	24	24	24	24
90	4	4	3	3	3	3	3	3	3
95	232	230	225	215	206	200	193	189	187
100	500	520	527	525	519	507	496	489	485
105	703	735	752	760	757	753	741	733	728
110	917	960	988	1003	1008	1007	1000	989	986
115	1128	1192	1236	1265	1279	1285	1283	1274	1278
120	1299	1386	1459	1505	1541	1561	1569	1568	1560
125	1389	1498	1592	1674	1732	1772	1798	1812	1822
130	1401	1512	1615	1717	1793	1852	1891	1918	1925
135	1375	1467	1559	1651	1728	1790	1839	1867	1876
140	1339	1407	1476	1546	1607	1656	1694	1720	1725
145	1324	1372	1418	1464	1505	1537	1561	1581	1598
150	1326	1359	1390	1421	1446	1466	1477	1489	1497
155	1336	1356	1377	1400	1417	1427	1433	1442	1428
160	1345	1359	1373	1389	1400	1405	1407	1409	1424
165	1350	1357	1366	1375	1383	1384	1385	1386	1379
170	1355	1356	1358	1362	1366	1364	1364	1363	1362
175	1357	1356	1354	1355	1356	1353	1351	1349	1363
180	1356	1356	1356	1356	1356	1356	1356	1356	1356

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1074.44	N.A.	9.70
0-30	2318.55	N.A.	21.00
0-40	3631.98	N.A.	32.90
0-60	4851.53	N.A.	44.00
0-80	5234.24	N.A.	47.50
0-90	5270.53	N.A.	47.80
10-90	4997.94	N.A.	45.30
20-40	2557.54	N.A.	23.20
20-50	3338.38	N.A.	30.30
40-70	1473.85	N.A.	13.40
60-80	382.71	N.A.	3.50
70-80	128.40	N.A.	1.20
80-90	36.29	N.A.	0.30
90-110	787.61	N.A.	7.10
90-120	1710.61	N.A.	15.50
90-130	2812.87	N.A.	25.50
90-150	4639.81	N.A.	42.10
90-180	5752.88	N.A.	52.20
110-180	4965.27	N.A.	45.00
0-180	11023.41	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	272.59
10-20	801.84
20-30	1244.11
30-40	1313.43
40-50	780.83
50-60	438.71
60-70	254.31
70-80	128.40
80-90	36.29
90-100	198.37
100-110	589.24
110-120	923.00
120-130	1102.26
130-140	1017.84
140-150	809.09
150-160	604.92
160-170	379.05
170-180	129.10

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	98	95	91	88	91	87	84	82	74	72	70	61	60	59	50	49	48	43
2	91	84	79	74	83	78	73	69	66	63	60	55	53	51	45	44	42	38
3	84	75	68	63	77	70	64	59	59	55	52	50	47	44	41	39	37	33
4	77	67	60	55	71	63	56	51	54	49	45	45	42	39	38	35	33	30
5	71	61	53	48	66	56	50	45	49	44	40	41	38	35	35	32	30	27
6	66	55	47	42	61	51	45	40	44	39	35	38	34	31	32	29	27	24
7	61	50	42	37	57	47	40	35	41	35	32	35	31	28	29	27	24	22
8	57	46	38	33	53	43	36	32	37	32	29	32	28	25	27	24	22	20
9	53	42	35	30	49	39	33	29	34	29	26	30	26	23	25	23	20	18
10	50	39	32	27	46	36	30	26	32	27	24	28	24	21	24	21	19	17

IES INDOOR REPORT
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UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

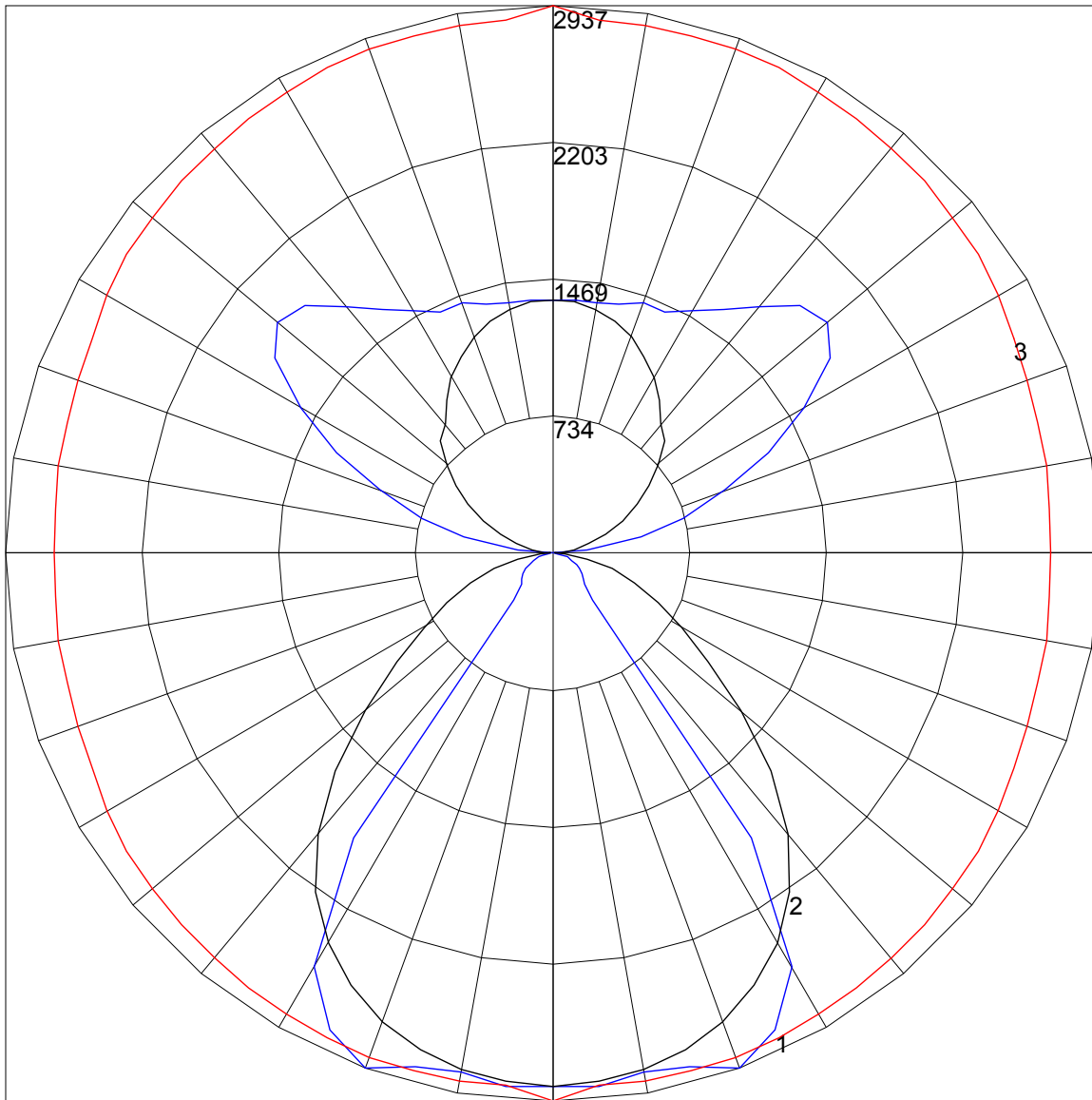
X=2H	Y=2H	17.9	18.6	18.9	19.6	20.9	8.3	8.3	8.3	8.9	10.2
	3H	19.4	20.0	20.4	21.1	22.4	9.1	9.7	10.1	10.7	12.1
	4H	20.0	20.6	21.0	21.6	22.9	9.8	10.4	10.8	11.4	12.8
	6H	20.4	20.9	21.4	22.0	23.3	10.4	11.0	11.4	12.0	13.4
	8H	20.5	21.0	21.5	22.0	23.4	10.6	11.2	11.7	12.2	13.5
	12H	20.5	21.0	21.5	22.0	23.4	10.8	11.3	11.8	12.3	13.7

UGR Viewed Endwise

4H	2H	17.6	18.2	18.6	19.3	20.6	8.3	8.4	8.8	9.4	10.7
	3H	19.2	19.7	20.2	20.7	22.1	9.9	10.4	10.9	11.5	12.8
	4H	19.7	20.2	20.8	21.3	22.6	10.8	11.3	11.8	12.3	13.7
	6H	20.2	20.6	21.2	21.6	23.0	11.5	11.9	12.6	13.0	14.4
	8H	20.3	20.7	21.3	21.7	23.1	11.8	12.2	12.8	13.2	14.6
	12H	20.3	20.7	21.4	21.7	23.1	12.0	12.3	13.0	13.4	14.8
8H	4H	19.6	20.0	20.7	21.1	22.4	11.1	11.5	12.2	12.6	14.0
	6H	20.1	20.4	21.1	21.5	22.8	12.1	12.4	13.1	13.5	14.8
	8H	20.2	20.5	21.3	21.6	23.0	12.4	12.7	13.5	13.8	15.2
	12H	20.3	20.5	21.3	21.6	23.0	12.7	12.9	13.7	14.0	15.4
12H	4H	19.6	19.9	20.6	21.0	22.4	11.2	11.5	12.2	12.6	14.0
	6H	20.0	20.3	21.1	21.4	22.8	12.1	12.4	13.2	13.5	14.9
	8H	20.2	20.4	21.2	21.5	22.9	12.6	12.8	13.6	13.9	15.3

Maximum UGR = 23.4

POLAR GRAPH



Maximum Candela = 2937 Located At Horizontal Angle = 90, Vertical Angle = 20
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (0 - 180)
3 - Horizontal Cone Through Vertical Angle (20) (Through Max. Cd.)