

Report of Test

LLIA001130-002A

Catalog Number: HEC7MCPCNNWNGN

High Bay mounted, cast aluminum housing, white center reflector, clear plastic enclosure.
420 white LEDs, one 1500-HIB-0049-00 RevA LED board with circular white baffles around LEDs.
One LED driver.

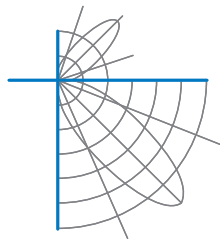
480.0Vac, 60.00Hz, 0.2907A, 138.5W, 0.992PF, 11.9%THD(i)



Performance Summary

Total Light Output	18210 lm
Luminaire Power	138.5 W
Luminous Efficacy	131.5 lm/W

PREPARED FOR : Dialight, 1501 Route 34 South, Farmingdale, NJ 07727, USA



Test Report No. LLIA001130-002A

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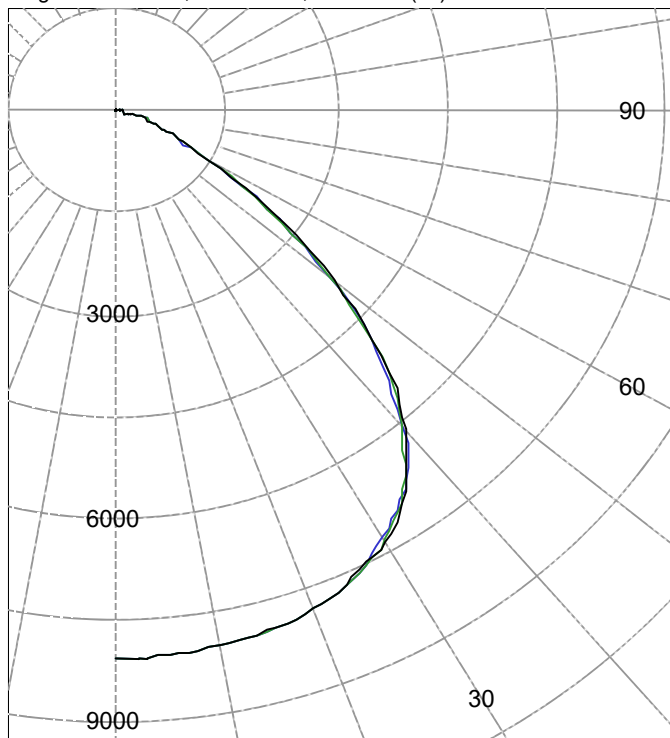
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Legend: C0-Black, C45-Green, C90-Blue (cd)



AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	128297	129227	127026
55.0	80076	78405	77911
65.0	34873	35417	35363
75.0	23317	23382	23127
85.0	9776	9865	9636

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	8072	8072	8072	8072	8072	
5.0	8057	8058	8059	8058	8057	768
10.0	8013	8008	8010	8012	8008	
15.0	7934	7934	7935	7938	7935	2245
20.0	7818	7827	7823	7820	7821	
25.0	7595	7622	7615	7596	7631	3506
30.0	7313	7265	7299	7299	7248	
35.0	6837	6835	6818	6840	6827	4238
40.0	6129	6066	6055	6066	6056	
45.0	5079	5026	5116	5113	5029	3869
50.0	3874	3783	3790	3912	3784	
55.0	2572	2464	2518	2529	2502	2273
60.0	1443	1441	1447	1474	1453	
65.0	825	830	838	845	837	884
70.0	563	561	564	570	560	
75.0	338	335	339	341	335	363
80.0	154	151	153	155	149	
85.0	48	48	48	48	47	64
90.0	0	0	0	0	0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	6518	N / A	35.8
0-40	10757	N / A	59.1
0-60	16899	N / A	92.8
0-90	18210	N / A	100.0
40-90	7454	N / A	40.9
60-90	1312	N / A	7.2
90-180	0	N / A	0.0
0-180	18210	N / A	100.0

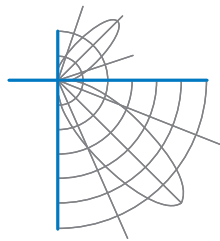
Total Light Output = 18,210 lm

Spacing Criterion: 0-180 1.3
Spacing Criterion: 90-270 1.3

Signed:

Authorized Signatory

Date of test 14-Jun-2019
Date of report 19-Jun-2019



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High Bay mounted, cast aluminum housing, white center reflector, clear plastic enclosure.

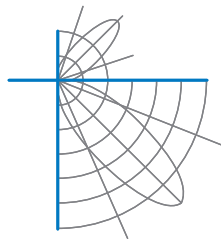
420 white LEDs, one 1500-HIB-0049-00 RevA LED board with circular white baffles around LEDs.

One LED driver.

480.0Vac, 60.00Hz, 0.2907A, 138.5W, 0.992PF, 11.9%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	8072	8072	8072	8072	8072
2.5	8066	8070	8069	8069	8067
5.0	8057	8058	8059	8058	8057
7.5	8042	8037	8040	8040	8039
10.0	8013	8008	8010	8012	8008
12.5	7975	7973	7975	7977	7975
15.0	7934	7934	7935	7938	7935
17.5	7886	7887	7886	7887	7885
20.0	7818	7827	7823	7820	7821
22.5	7731	7742	7739	7729	7739
25.0	7595	7622	7615	7596	7631
27.5	7455	7454	7461	7450	7464
30.0	7313	7265	7299	7299	7248
32.5	7129	7061	7094	7117	7053
35.0	6837	6835	6818	6840	6827
37.5	6477	6490	6426	6443	6546
40.0	6129	6066	6055	6066	6056
42.5	5695	5581	5635	5652	5517
45.0	5079	5026	5116	5113	5029
47.5	4472	4405	4411	4522	4489
50.0	3874	3783	3790	3912	3784
52.5	3199	3126	3166	3199	3106
55.0	2572	2464	2518	2529	2502
57.5	1978	1907	1925	1960	1929
60.0	1443	1441	1447	1474	1453
62.5	1079	1072	1089	1103	1098
65.0	825	830	838	845	837
67.5	677	672	681	689	686
70.0	563	561	564	570	560
72.5	456	448	451	460	446
75.0	338	335	339	341	335
77.5	235	230	231	239	229
80.0	154	151	153	155	149
82.5	95	91	94	95	89
85.0	48	48	48	48	47
87.5	24	24	24	24	24
90.0	0	0	0	0	0



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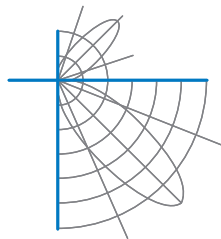
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420 white LEDs, one 1500-HIB-0049-00 RevA LED board with circular white baffles around LEDs.

One LED driver.

480.0Vac, 60.00Hz, 0.2907A, 138.5W, 0.992PF, 11.9%THD(i)

Intensity data (cd)						
Gamma	C-Plane					
	C0	C22.5	C45	C67.5	C90	
90.0	0	0	0	0	0	
92.5	0	0	0	0	0	
95.0	0	0	0	0	0	
97.5	0	0	0	0	0	
100.0	0	0	0	0	0	
102.5	0	0	0	0	0	
105.0	0	0	0	0	0	
107.5	0	0	0	0	0	
110.0	0	0	0	0	0	
112.5	0	0	0	0	0	
115.0	0	0	0	0	0	
117.5	0	0	0	0	0	
120.0	0	0	0	0	0	
122.5	0	0	0	0	0	
125.0	0	0	0	0	0	
127.5	0	0	0	0	0	
130.0	0	0	0	0	0	
132.5	0	0	0	0	0	
135.0	0	0	0	0	0	
137.5	0	0	0	0	0	
140.0	0	0	0	0	0	
142.5	0	0	0	0	0	
145.0	0	0	0	0	0	
147.5	0	0	0	0	0	
150.0	0	0	0	0	0	
152.5	0	0	0	0	0	
155.0	0	0	0	0	0	
157.5	0	0	0	0	0	
160.0	0	0	0	0	0	
162.5	0	0	0	0	0	
165.0	0	0	0	0	0	
167.5	0	0	0	0	0	
170.0	0	0	0	0	0	
172.5	0	0	0	0	0	
175.0	0	0	0	0	0	
177.5	0	0	0	0	0	
180.0	0	0	0	0	0	



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Coefficients Of Utilization - Zonal Cavity Method

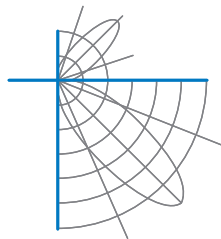
Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	104	101	109	105	102	99	101	98	96	97	95	93	94	92	91	89
2	103	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	70	68
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	70	58	50	45	69	57	50	44	56	49	44	55	48	44	53	48	44	42
8	66	53	45	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34
10	58	45	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	31

For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	224.2	8.01	7.95
8.0	126.1	10.68	10.60
10.0	80.7	13.35	13.25
12.0	56.1	16.02	15.90
14.0	41.2	18.69	18.55
16.0	31.5	21.36	21.20



Test Report No. LLIA001130-002A

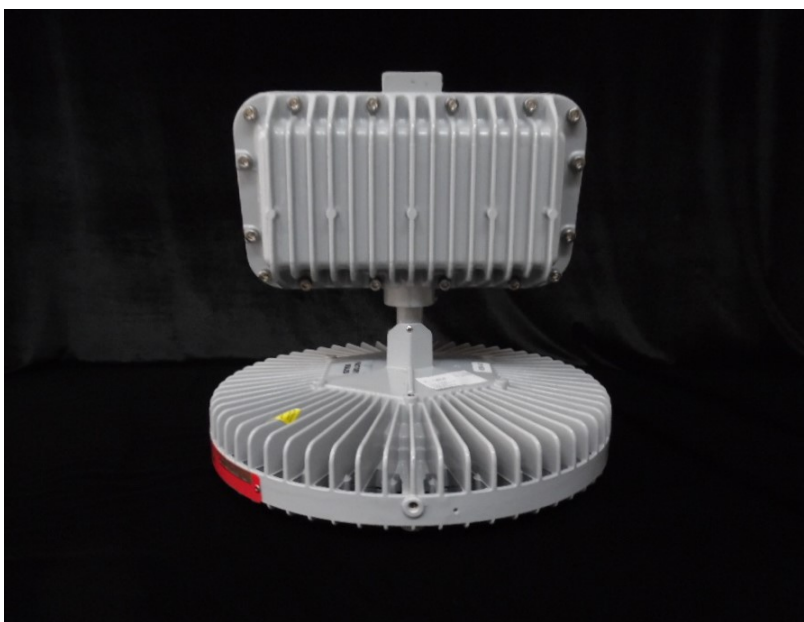
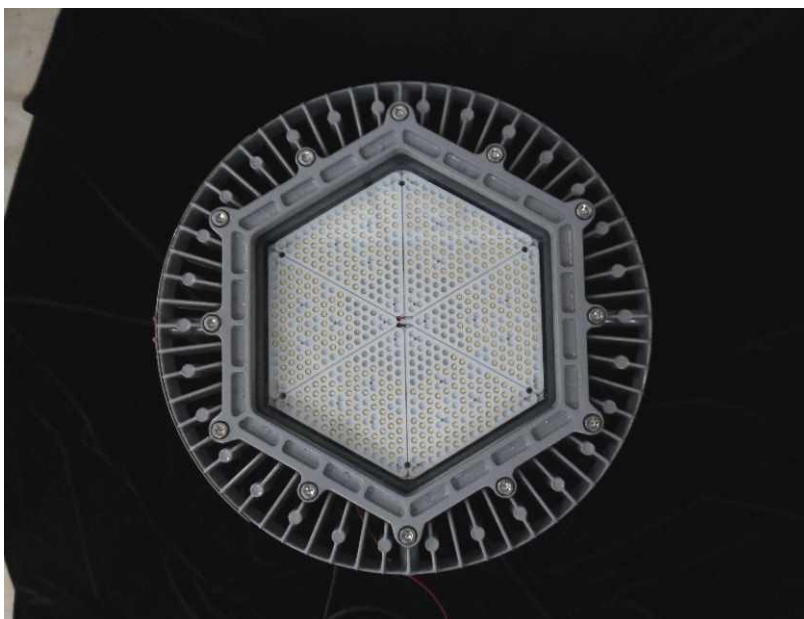
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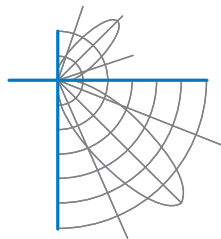
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One LED driver.

480.0Vac, 60.00Hz, 0.2907A, 138.5W, 0.992PF, 11.9%THD(i)

Test Distance 9.5 m
Test Temperature 25.3 °C

Notes

The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-08 (Sec. 12), IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2017, ANSI C82.77-10:2014.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

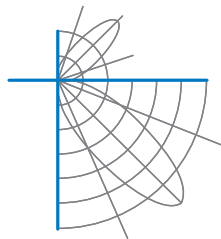
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.

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



Report of Test

LLIA001130-002B

Integrating Sphere Report

Catalog Number: HEC7MCPCNNWNGN

High Bay mounted, cast aluminum housing, white center reflector, clear plastic enclosure.
420 white LEDs, one 1500-HIB-0049-00 RevA LED board with circular white baffles around LEDs.
One LED driver.



Performance Summary

Voltage	480.0 Vac
Current	0.2919 A
Power	139.1 W
Frequency	59.99 Hz
Power Factor	0.993
Current THD	11.8 %
Total Luminous Flux	18721.9 lm
Efficacy	134.6 lm/W
Chromaticity (x,y)	(0.3458, 0.3571)
(u',v')	(0.2097, 0.4874)
Duv	0.0025
CCT	4994 K
CRI (Ra)	82
R9	6
TM-30: Rf	81
TM-30: Rg	96

Prepared For:

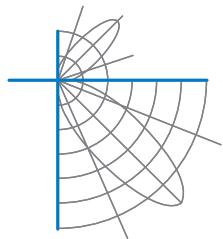
Dialight

1501 Route 34 South

Farmingdale, NJ 07727, USA

Test date: 06/17/2019

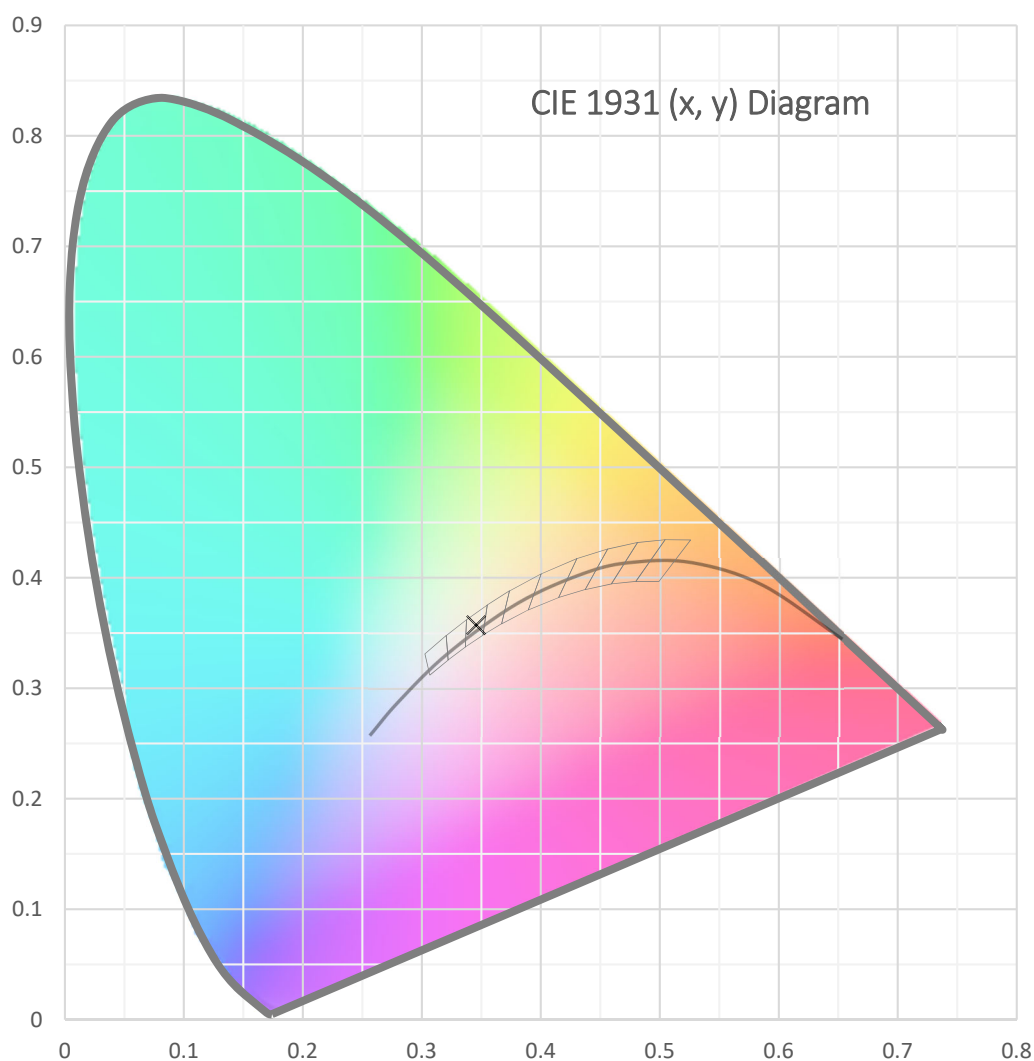
Report date: 06/19/2019

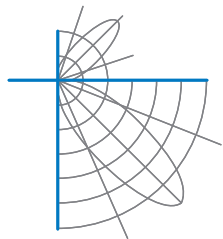


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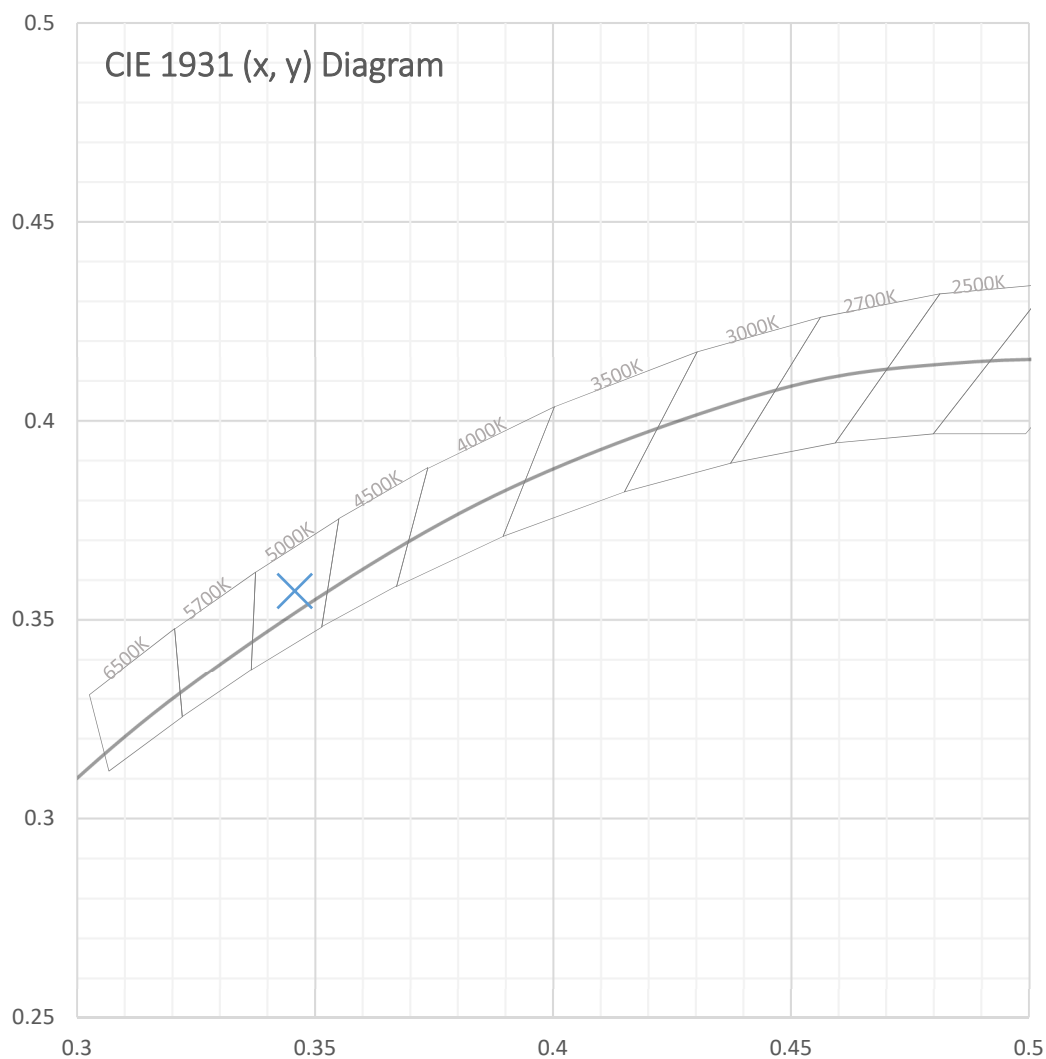


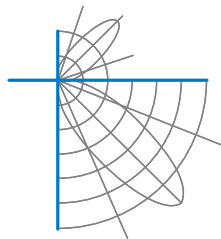


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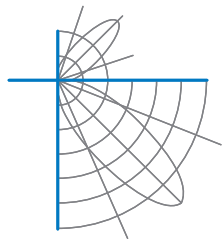
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Spectral Data

Total Radiant Flux	58.14 W
Total Luminous Flux	18721.9 Lm
Chromaticity CIE 1931 (x, y)	(0.3458, 0.3571)
Chromaticity CIE 1976 (u', v')	(0.2097, 0.4874)
Correlated Color Temperature (CCT)	4994 K
Color Rendering Index (Ra)	82
R1	81
R2	87
R3	92
R4	82
R5	81
R6	82
R7	88
R8	67
R9	6
R10	69
R11	81
R12	55
R13	82
R14	96
TM-30: Rf	81
TM-30: Rg	96
Distance from Planckian Locus (Duv)	0.0025
Scotopic/Photopic Ratio *	1.934

Electrical Data

Voltage	480.0 Vac
Current	0.2919 A
Power	139.1 W
Frequency	59.99 Hz
Power Factor	0.993
Current THD	11.8 %



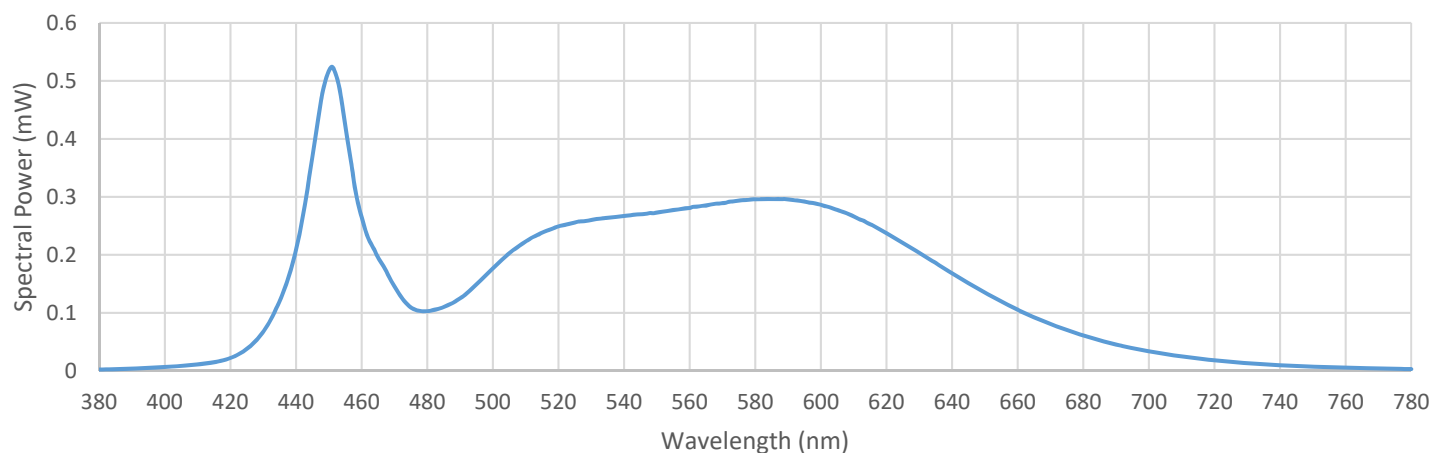
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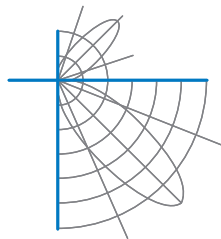
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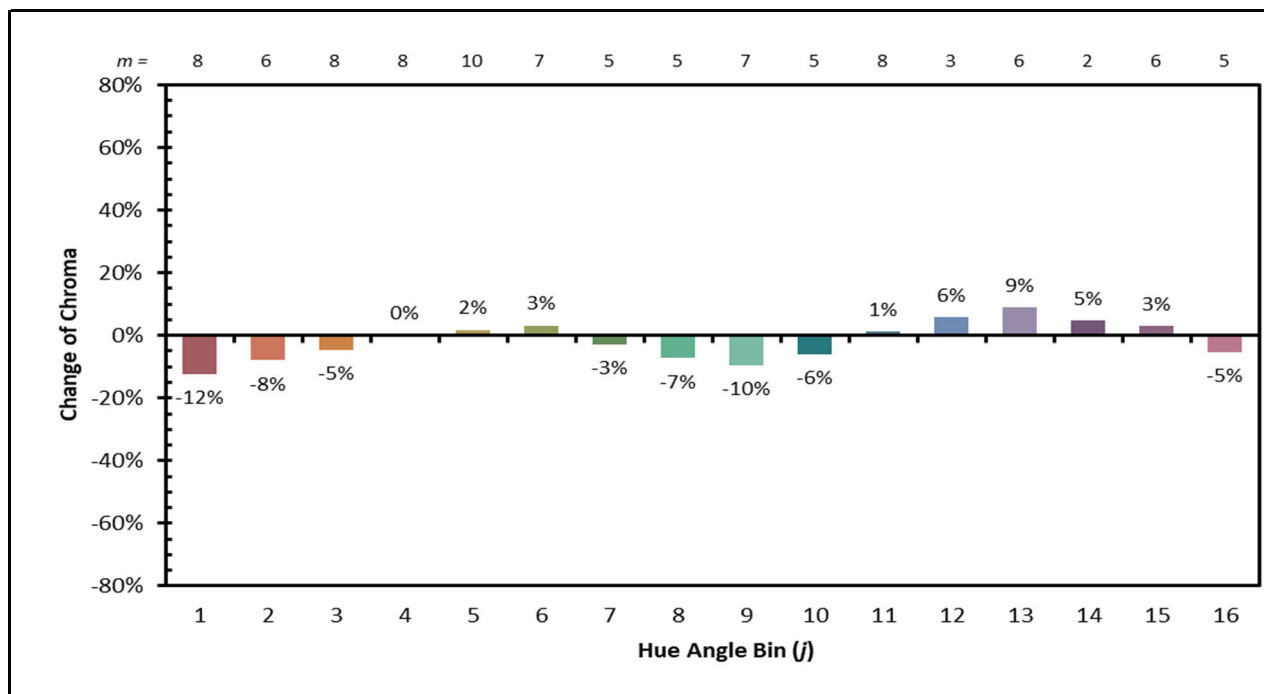
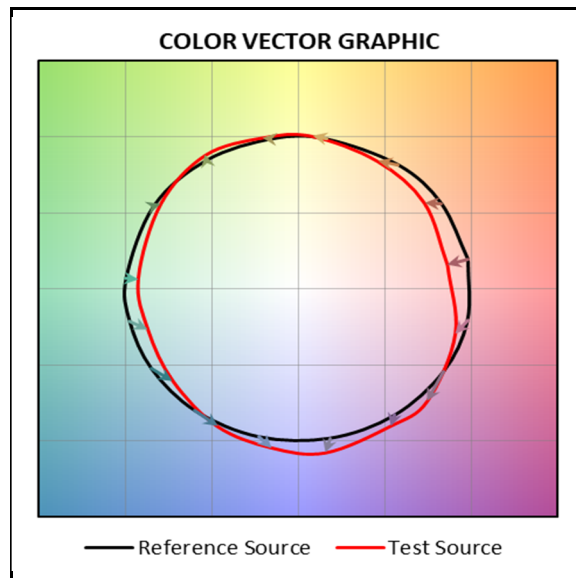
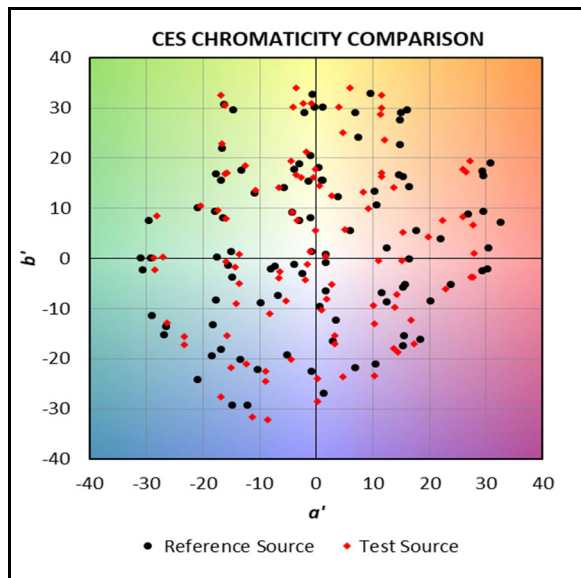
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

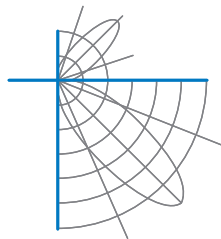
380	0.002276	480	0.102963	580	0.295846	680	0.060880
385	0.002641	485	0.109920	585	0.296077	685	0.052560
390	0.003593	490	0.125030	590	0.295515	690	0.045286
395	0.004818	495	0.148853	595	0.291979	695	0.039079
400	0.006559	500	0.177080	600	0.286540	700	0.033521
405	0.008616	505	0.202850	605	0.277476	705	0.028712
410	0.010973	510	0.223183	610	0.266425	710	0.024585
415	0.014544	515	0.238357	615	0.252852	715	0.021122
420	0.022280	520	0.249270	620	0.237019	720	0.018099
425	0.037522	525	0.255818	625	0.220844	725	0.015469
430	0.067760	530	0.260174	630	0.203174	730	0.013234
435	0.120056	535	0.263576	635	0.186109	735	0.011331
440	0.208996	540	0.267262	640	0.168076	740	0.009659
445	0.369969	545	0.269686	645	0.151067	745	0.008290
450	0.517271	550	0.273167	650	0.134972	750	0.007102
455	0.422679	555	0.277338	655	0.119777	755	0.006107
460	0.264709	560	0.280815	660	0.105356	760	0.005281
465	0.195028	565	0.284871	665	0.092447	765	0.004536
470	0.145094	570	0.289136	670	0.080599	770	0.003883
475	0.109064	575	0.293670	675	0.070269	775	0.003359
						780	0.002905





IES TM-30 Details



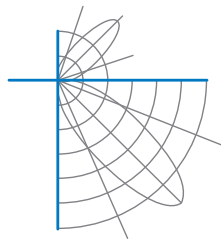


Test Report Number: LLIA001130-002B

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High Bay mounted, cast aluminum housing, white center reflector, clear plastic enclosure.
420 white LEDs, one 1500-HIB-0049-00 RevA LED board with circular white baffles around LEDs.
One LED driver.

Test Equipment Configuration:	LightLab International Allentown 2m Integrating Sphere Measurements acquired using a Labsphere CDS 2600 spectroradiometer Testing was performed using 4 π geometry
Test Temperature:	26.0 °C
Test Procedure:	Tested in accordance with the applicable sections of: LM-79-08, LM-78-07, LM-58-13, ANSI_ANSLG C78.377-2017, ANSI C82-77-10:2014, TM-30-15
Significance:	The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.
Notes:	The measurements and other derived quantities contained in this report are based on the absolute data as measured. Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results. This report is free of erasures and corrections This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.



Report of Test

LLIA001130-002C

ISTM Report

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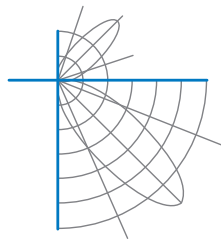
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One LED driver.



Prepared For:
Dialight
1501 Route 34 South
Farmingdale, NJ 07727, USA

This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 06/21/2019
Report date: 06/21/2019

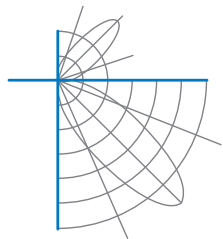


Test Report Number: LLIA001130-002C

Catalog Number: HEC7MCPCNNWNGN

High Bay mounted, cast aluminum housing, white center reflector, clear plastic enclosure.
420 white LEDs, one 1500-HIB-0049-00 RevA LED board with circular white baffles around LEDs.
One LED driver.

Purpose of Test:	To determine the in-situ temperature of the specified LED Ts point and driver Tc point. In this test, in-situ temperature refers to standard laboratory conditions with the luminaire configured in accordance with appropriate sections of UL1598-2008
Luminaire Mounting:	Highbay
LED Test Point:	Thermocouples were attached to the LED case temperature point (Ts) as specified by report number SQETMN558601, issued 06/11/2016 by Nichia Corporation LED Testing Laboratory. The measured LED was selected according to guidance provided by DLC and ENERGY STAR for lumen maintenance projection.
Driver Test Point:	Thermocouples were attached to the driver case in the location (Tc) designated by the manufacturer.
Sample Selection:	LightLab International Allentown. LLC has not participated in the selection of sample(s) being tested. Testing is performed on the understanding that the significance of the report is limited to the extent to which the sample is representative of production units.
Disclaimer:	This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
Procedure:	In-situ temperature measurements were performed with the luminaire mounted suspended from a simulated ceiling. The luminaire supply voltage and frequency was set according to the luminaire manufacturer's instructions. The luminaire was allowed to reach stabilization as defined in UL1598-2008 prior to reported measurements. Testing was performed in a draft-free, temperature-controlled environment with an ambient temperature of 25 +/- 5 °C.
Test Equipment:	GW Instek APS-7100 AC Power Source Xitron 2801 Power Analyzer Fluke 52-ii Thermometer



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Electrical Measurements

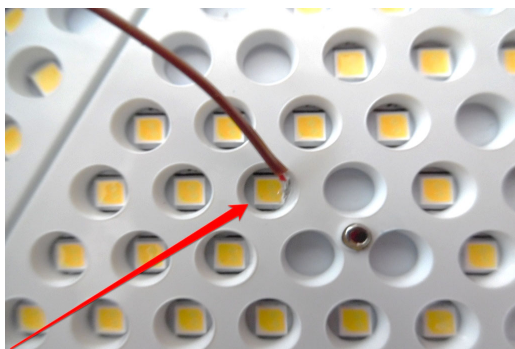
Voltage	480.0 Vac
Current	0.2903 A
Power	138.3 W
Frequency	60.0 Hz
Power Factor	0.992
Current THD	12.2 %
Driver #1 Output	0.274 Adc

Temperature Measurements

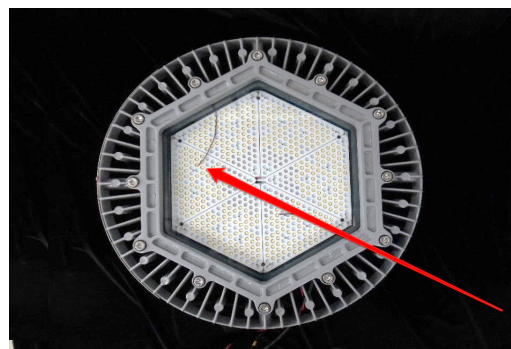
LED #1 (Ts)	57.4°C	Driver #1 (Tc)	N/A
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*The above temperatures have been normalized to 25°C ambient.

Measured Ambient Temperature (Ta) 24.2°C



LED Thermocouple Location



Selected LED Location