

Report of Test

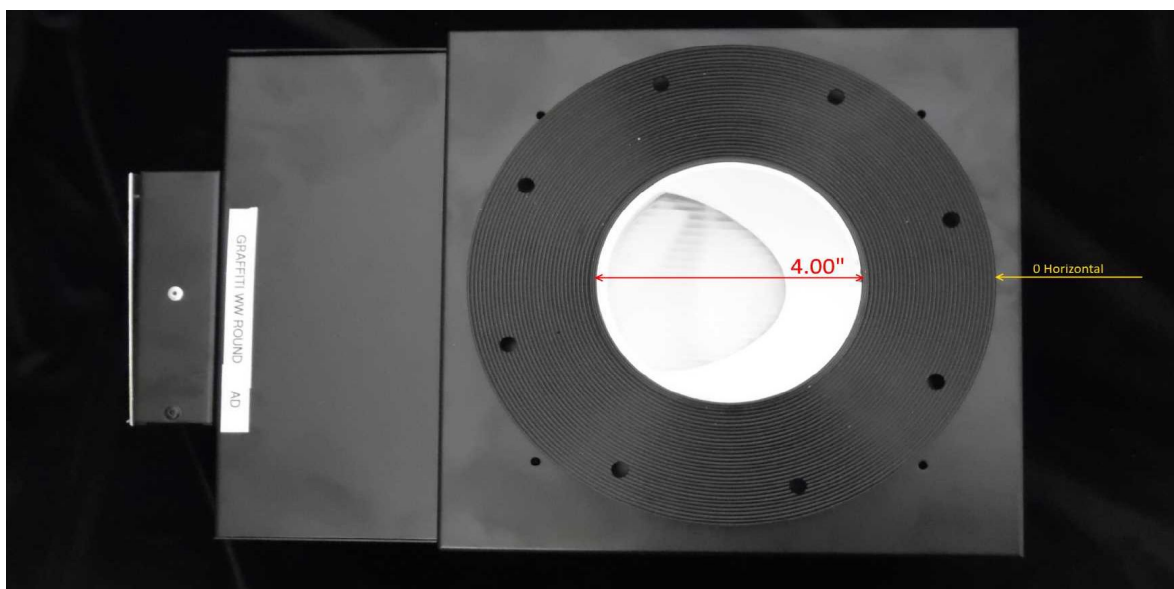
LLIA000536-001

Catalog Number: Graffiti WW Round

Recess mounted, aluminum heat sink with plastic specular reflector below LED, flangeless trim with lens, installed in black formed aluminum recessed housing with adjustable ceiling collar

One white LED

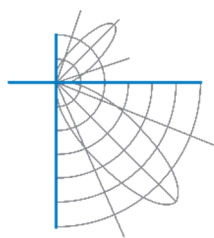
One Harvard Cool LED CL33-700SA-UNI-B, 700/350mA 33w dimming LED driver
120.0Vac, 60.0Hz, 0.1288A, 14.51W, 0.939PF, 4.28%THD(i)



Performance Summary

Total Light Output	558 lm
Luminaire Power	14.5 W
Luminous Efficacy	38.5 lm/W

PREPARED FOR : Specialty Lighting Industries, Inc., 1306 Doris Avenue, Ocean, NJ 07712



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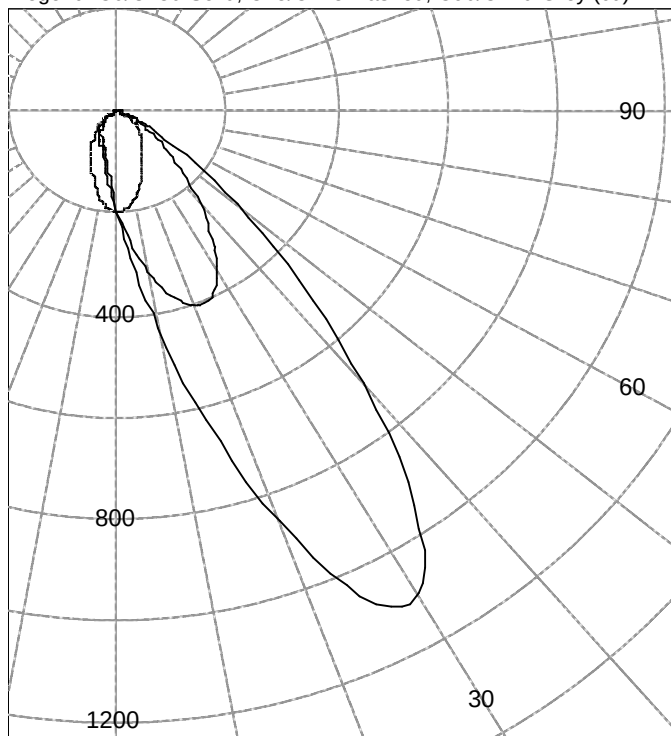
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Legend: C0/C180-Solid, C45/C225-Dashed, C90/C270-Grey (cd)



C180-C270 (Symmetric about C0/C180) C0-C90

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	197	197	197	197	197	
5.0	293	282	255	222	191	20
10.0	436	401	320	237	175	
15.0	629	544	375	235	154	70
20.0	857	691	406	219	132	
25.0	1054	795	403	193	111	130
30.0	1097	796	365	162	93	
35.0	945	682	303	132	79	144
40.0	700	513	234	105	68	
45.0	471	354	171	83	57	102
50.0	284	221	118	65	48	
55.0	152	125	78	49	38	53
60.0	83	73	52	37	29	
65.0	52	47	36	27	21	26
70.0	34	31	24	17	13	
75.0	20	18	14	9	7	11
80.0	9	8	6	5	4	
85.0	4	3	2	2	2	2
90.0	0	0	0	0	0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	220	N / A	39.4
0-40	364	N / A	65.2
0-60	518	N / A	92.9
0-90	558	N / A	100.0
40-90	194	N / A	34.8
60-90	39	N / A	7.1
90-180	0	N / A	0.0
0-180	558	N / A	100.0

Total Light Output = 558 lm

AVERAGE LUMINANCE (cd/m²)

Gamma	C0	C45	C90
45.0	81414	29546	9940
55.0	32379	16576	8070
65.0	14973	10475	5997
75.0	9335	6452	3502
85.0	5165	3509	2204

Signed:

Michael L. Grather
Authorized Signatory

Date of test 25-Jan-2016
Date of report 28-Jan-2016

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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	197	197	197	197	197
2.5	238	234	224	210	195
5.0	293	282	255	222	191
7.5	358	338	288	231	184
10.0	436	401	320	237	175
12.5	527	470	349	238	165
15.0	629	544	375	235	154
17.5	741	619	394	229	143
20.0	857	691	406	219	132
22.5	967	753	409	207	121
25.0	1054	795	403	193	111
27.5	1101	811	388	178	102
30.0	1097	796	365	162	93
32.5	1041	751	336	147	86
35.0	945	682	303	132	79
37.5	826	600	268	118	73
40.0	700	513	234	105	68
42.5	581	430	201	94	62
45.0	471	354	171	83	57
47.5	372	283	143	74	53
50.0	284	221	118	65	48
52.5	210	167	96	57	43
55.0	152	125	78	49	38
57.5	110	94	63	43	33
60.0	83	73	52	37	29
62.5	65	58	43	32	25
65.0	52	47	36	27	21
67.5	42	38	30	22	17
70.0	34	31	24	17	13
72.5	26	24	19	13	10
75.0	20	18	14	9	7
77.5	14	13	9	7	6
80.0	9	8	6	5	4
82.5	6	5	4	3	3
85.0	4	3	2	2	2
87.5	1	1	1	1	1
90.0	0	0	0	0	0

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One white LED

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Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	197	197	197	197	197
2.5	195	182	172	166	164
5.0	191	167	150	141	137
7.5	184	151	131	121	117
10.0	175	137	116	106	102
12.5	165	125	104	94	91
15.0	154	113	94	85	83
17.5	143	103	86	78	76
20.0	132	95	79	73	71
22.5	121	87	74	68	67
25.0	111	81	69	65	63
27.5	102	75	66	61	60
30.0	93	71	62	59	57
32.5	86	66	59	56	54
35.0	79	63	56	53	52
37.5	73	59	53	50	49
40.0	68	55	50	47	46
42.5	62	52	47	44	42
45.0	57	48	43	40	39
47.5	53	44	39	36	35
50.0	48	40	35	32	31
52.5	43	36	31	28	26
55.0	38	31	27	24	22
57.5	33	27	23	20	19
60.0	29	24	20	17	16
62.5	25	20	17	15	14
65.0	21	17	14	13	13
67.5	17	14	12	11	11
70.0	13	11	10	9	9
72.5	10	9	8	8	8
75.0	7	7	6	6	6
77.5	6	5	5	5	5
80.0	4	4	4	4	4
82.5	3	2	2	3	3
85.0	2	1	1	2	2
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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89
2	103	97	91	87	101	95	90	86	91	87	84	88	85	82	85	83	80	78
3	96	87	80	75	93	86	79	74	83	77	73	80	76	72	78	74	71	69
4	89	79	71	66	87	77	71	65	75	69	64	73	68	64	71	66	63	61
5	83	71	64	58	81	70	63	58	68	62	57	67	61	57	65	60	56	54
6	77	65	57	52	75	64	57	51	62	56	51	61	55	51	59	54	50	48
7	72	60	52	46	70	59	51	46	57	51	46	56	50	46	55	49	45	43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	50	45	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	36
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34	32

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	5.5	7.82	4.84
8.0	3.1	10.42	6.46
10.0	2.0	13.03	8.07
12.0	1.4	15.64	9.69
14.0	1.0	18.24	11.30
16.0	0.8	20.85	12.92

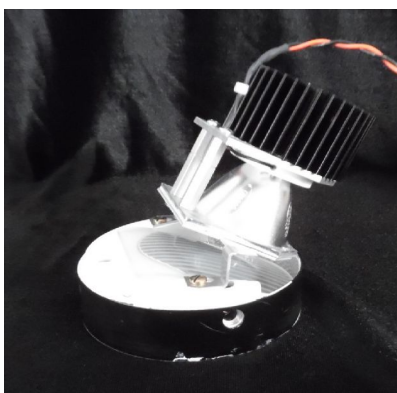
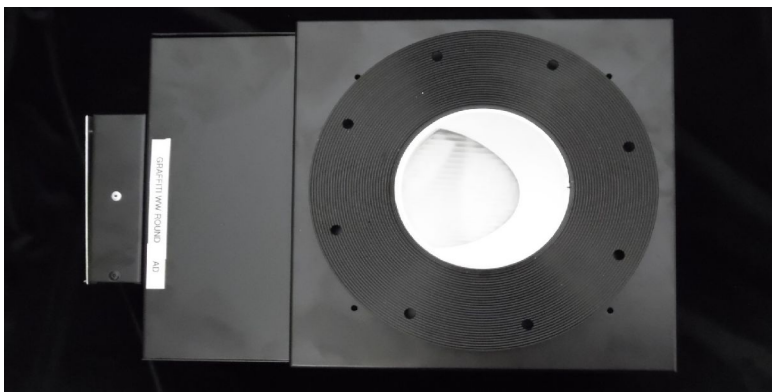
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Test Distance 9.5 m
Test Temperature 24.7 °C

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 C78.377:2011, ANSI C82.77:2002.

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.